http://www.oldgamesitalia.net/

The Commod... Computing Guide

U.S.A. $2.95
CANADA $3.95

RUN

February 1986 A CWC/I Publication

TEST-DRIVE THE 1571
—Easy to Use
—Reliable
—Quiet
—Fast

AMAZING BREAKTHROUGH FOR C-128:
Ultra HiRes Graphics In 80 Columns!

Create Your Own Character Sets On the C-128

PLUS:
—Help with Your Taxes
—An Easy & Safe Way To Rename Disks

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

HOW TO
TO A HIGHER

THE COMMODORE 128.

The first step is buying the Commodore 128™ Personal Computer. The smartest computer available for the price. It's like getting three computers for less than one usually costs, because the 128 operates in three separate modes. You can run sophisticated CP/M® business software and the new programs written for the 128. Plus over 3,000 Commodore 64® programs. You start out with more software and real life uses than most machines give you after years on the market.

THE COMMODORE 128 WORKS FASTER.

To run all that software and run it faster, you'll want the 1571 Disk Drive. You can't find a faster drive at the price. It transfers nearly 1,000 words a second (5200 cps), so you can load most programs instantly. And you'll save space as well as time because the 1571 holds up to 410K of data, the equivalent of 200 typewritten pages.

THE COMMODORE 128 GETS SMARTER.

Now try improving your memory. Plug in our 1750 RAM Expansion Module and your 128 moves up to a powerful 512K. That's enough to handle just about anything you can dish out, from complicated business forecasting to giant data bases. In fact our expansion module will be the only memory you'll need for many years to come.

®CP/M is a registered trademark of Digital Research, Inc. © 1985, Commodore Electronics Limited

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

EVOLVE NTELLIGENCE.

THE COMMODORE 128 LEARNS TO COMMUNICATE.

There's no real intelligence without the ability to communicate. So you'll want our 1670 Modem/1200. Just plug in your telephone jack and the modem automatically answers, dials and selects the appropriate mode. It puts you in touch with a new world of shopping, banking, communications and information over your telephone line. And it operates at a lightning-fast 1200 baud to save on your telephone bill.

THE COMMODORE 128 LEARNS TO WRITE.

Looking good in print could be your next move with the MPS 1000 Printer. It's a new dot matrix printer designed to make the most of the 128's high-resolution graphics because sometimes pictures speak louder than words. But it's no slouch when it comes to words. The MPS turns out about 1200 words a minute (100 cps) of draft-quality printing, or gives you near-letter-quality printing at nearly 240 words a minute (20 cps). And you can choose printing styles, use international characters, even make up your own symbols.

THE COMMODORE 128 IMPROVES YOUR VISION.

Brains aren't enough without good looks, so improve your vision with Commodore's new 1902 RGB Color Monitor. The high-resolution screen gives you a sharper image and better color than your standard TV, so you can really appreciate the 128's great graphics. And the 80-column display lets you see more of what you're doing while you're doing it.

All these evolutionary steps ahead won't set you back when it comes to paying for them. Additions to your Commodore 128 are available at a store near you and are as affordable as the 128 itself. We think that's a smart way to help you build a computer system.

COMMODORE 128 PERSONAL COMPUTER

A Higher Intelligence

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

CALL TOLL FREE 1-800-631-1003

COMPUTER CENTERS of AMERICA MAIL ORDER, LTD.

AFTER

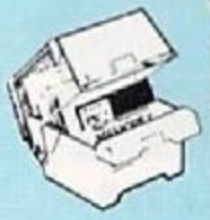
commodore
128
PERSONAL COMPUTER
$265
•Including: Shipping, Handling and Insurance — No Extra Charges

commodore
1571
DISC DRIVE
$249
•Including: Shipping, Handling and Insurance — No Extra Charges

commodore
1902
MONITOR
CALL FOR PRICE

commodore
64 PACKAGE
Includes:
•Commodore 64 Computer
•Commodore 1541 Disc Drive
•Commodore 803 Printer
$399.95
To Substitute A Color Monitor for the 803 Printer, Please Add $40

MEMOREX SPECIAL



WORK STATION
Regular Price 295
Factory Rebate 50
YOUR COST $249.95
•20 Disks •Disk Case

DISKETTES

Nashua	$ 8.95
Scotch	$11.95
Maxell	$11.95
Memorex	$ 8.95*
BASF	$ 8.95

*After $3 Rebate

INTERFACES

Teleys Turboprint GT Prints Enhanced Graphics	$59.95
Cardco G+	Call for Price
Microworld	Call for Price
PPI	$44.95
Xetec - Super Graphics Sr.	$69.95
Xetec - Super Graphics Jr.	$49.95

JANUARY IS COMPUTER SOFTWARE MONTH AT

epyx

BUSINESS SOFTWARE FOR 128 COMMODORE COMPUTER

MICROSOFT MULTI PLANNER | PROGRAMMER'S BASIC TOOL KIT

CALL FOR PRICES

epyx YOUR CHOICE $19.95

Kronis Rift - Lucas Games	Temple of Asphai
Eidolon - Lucas Games	Trilogy
Ballblazer - Lucas Games	Jet Combat
Rescue Fractalus - Lucas	Simulator
Games	GI Joe
Fastload	Summer Games I or II
Wintergames	Barbie
Hot Wheels	Baseball

CBS

Sesame Street Letter-Go-Round	$19.99
Big Bird's Fun House	$19.99
The Sea Voyager	$24.99
Weather Tamers	$12.99
Movie Musical Madness	$ 9.99
Success w/Decimals (Add./Subt.) D-T	$14.99
Success w/Decimals (Mult./Div.) D-T	$14.99
Success w/Fractions (Add./Subt.) D-T	$14.99
Success w/Fractions (Mult./Div.) D-T	$14.99
Ducks Ahoy	$19.99
Ernie's Magic Shapes	$19.99
Murder by the Dozen	$23.99
Astro-Grover	$24.99

SPECIAL LIMITED SUPPLY — SPECIAL GROUPING

commodore

Assembler D	$27.95
Easy Finance I, II, III, IV-D	$19.95
Easy Calc-D	$64.95
Easy Script-D	$39.95
Easy Spell-D	$19.95
Logo-D	$49.95
The Manager-D	$37.95
General Ledger	$37.95
Accts. Rec.-D	$37.95
Accts. Pay.-D	$37.95
Magic Desk-D	$52.95
Silent Butler	$24.95
Sky Travel	$27.00

IN NEW YORK STATE CALL TOLL FREE
1-800-221-2760 or 516-349-1020

1-800-631-1003

OR WRITE: COMPUTER CENTERS OF AMERICA, 81 TERMINAL DRIVE, PLAINVIEW, NY 11803

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

DISTRIBUTOR PRICES ARE NOW ACCESSIBLE!

HOLIDAY SAVINGS

Gemini SG10 PRINTER

$215

•Including: Shipping, Handling and Insurance — No Extra Charges

Goldstar 13" COLOR COMPOSITE MONITOR

•Cables Included •1 Yr. Mfr. Warranty

$124.95

CMS

FOR 128 Commodore PERSONAL COMPUTER SPREAD SHEET BOOK PACKAGE

$139.95

PRINTER SPECIALS FROM CCA

GEMINI STAR 10X

$149 Limited Supply

STAR POWER TYPE

•Letter Quality
•18 CPS
•13" Carriage with Comm. Interface

$289.95

MODEMS

Mighty Mo $64.95
Commodore 1660
Call for Price
Commodore 1670
Call for Price

JOYSTICKS

GIM Professional Joystick

•2 Fire Buttons •Contoured Handle
•Lifetime Guarantee •Comparable to 3-Way

$9.95

WICO JOYSTICKS

The Boss	The Bat	3-Way
$12.88	$14.88	$19.88

AND MORE!

COMPUTER CENTERS OF AMERICA!!!!

ACTIVISION

Pet Person (Little People)	$24.88
Fast Trax	$24.88
Hacker	$14.88
Alcazar	$14.88
Countdown to Shutdown	$14.88

ACCESS

Neutral Zone D-T	$20.95
Spritemaster D-T	$20.95
Beachhead D-T	$20.95
Master Composer D	$23.95

PROFESSIONAL

Fleet System 2
The Largest Spell Checker Available For Your Computer
90,000 Words on C-64/128
70,000 Words on Atari

$59.95

penguin software™

Quest	$19.99
Transylvania	$19.99
Sword of Kadash	$19.99
Xyphus	$19.99
Graphics Magician Picture Painter	$21.99

WE'RE PROUD OF OUR PRICES — SATISFACTION GUARANTEED

Check, Money Order, MC or VISA accepted / No additional charge for MasterCard and Visa / Call for shipping and handling information / NYS residents add applicable sales tax / Prices and availability are subject to change without notice / All factory fresh merchandise with manufacturer's warranty. Dealers Welcome. Call for recent price reductions and new rebate information. Plus shipping and handling. No returns without return authorization number.

COMPUTER Centers of America Mail Order LTD.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

February 1986 RUN *Vol. 3, No. 2*

FEATURES

26 Commodore's New Disk Drive

Thinking of buying Commodore's 1571? Find out what this new disk drive has to offer.

By Jim Borden

34 Ultra Hi-Res Graphics

This dramatic breakthrough lets you generate high-resolution graphics in 80 columns on your C-128.

By Louis R. Wallace and David P. Darus

42 C-128 Custom Character Sets

You needn't be limited to the C-128's standard characters when you can create your own—from a foreign language symbol to a lightning bolt.

By Isaac Malitz

50 On-Line with Medical Services

These on-line medical services provide professional advice, extensive information and the opportunity to ask questions and share concerns about any health-related topic.

By Margaret Morabito

66 Tax Deductor's Delight

This program lets you file, sort, total, print and save all records that pertain to Schedule A, Form 1040.

By Barbara Schulak

74 New Names for Old Disks

The 1541's disk operating system doesn't provide a command for renaming disks. But we do. . .

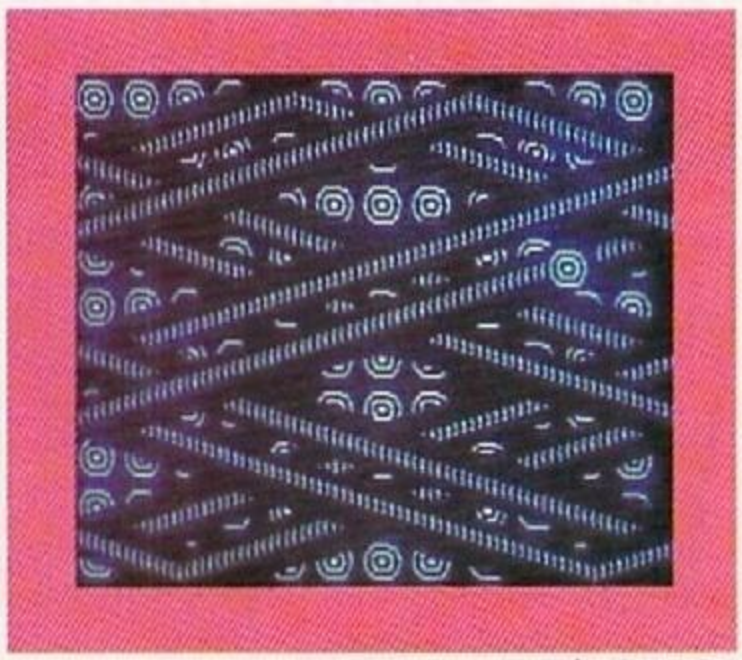
By Robert Dickow

80 Fast-Food Chef

If you've ever considered a career in the fast-food business, this program is great preparation.

By George Decker

Cover photography by Ed Judice



Page 34

RUN is a member of the CW Communications/Inc. group, the world's largest publisher of computer-related information. The group publishes 57 computer publications in more than 20 major countries. Nine million people read one or more of the group's publications each month. Members of the group include: Argentina's *Computerworld/Argentina*; Asia's *The Asian Computerworld*; Australia's *Computerworld Australia, Australian PC World, Macworld* and *Directories*; Brazil's *DataNews* and *MicroMundo*; China's *China Computerworld*; Denmark's *Computerworld/Danmark, PC World* and *RUN* (Commodore); Finland's *Mikro*; France's *Le Monde Informatique, Golden* (Apple), *OPC* (IBM) and *Distributique*; Germany's *Computerwoche, Microcomputerwelt, PC Welt, SoftwareMarkt, CW Edition/Seminar, Computer Business, RUN* and *Apple's*; Italy's *Computerworld Italia* and *PC Magazine*; Japan's *Computerworld Japan*; Mexico's *Computerworld/Mexico* and *CompuMundo*; The Netherland's *ComputerWorld Benelux* and *PC World Benelux*; Norway's *Computerworld Norge, PC World* and *RUN* (Commodore); Saudi Arabia's *Saudi Computerworld*; Spain's *Computerworld/Espana, Macrosistemas/PC World* and *Commodore World*; Sweden's *ComputerSweden, Mikrodatorn*, and *Svenska PC*; the UK's *Computer Management, Computer News, PC Business World* and *Computer Business Europe*; the U.S.' *AmigaWorld, Computerworld, Focus Publications, HOT CoCo, inCider, InfoWorld, MacWorld, Micro Marketworld, On Communications, PC World, RUN, 73 Magazine, 80 Micro*; Venezuela's *Computerworld Venezuela*.

RUN (ISSN 0741-4285) is an independent journal not connected with Commodore Business Machines, Inc. *RUN* is published monthly by CW Communications/Peterborough, Inc., 80 Pine St., Peterborough, NH 03458. U.S. subscription rates $19.97, one year; $29.97, two years; $41.97, three years. Canada and Mexico $22.97, one year, U.S. funds drawn on U.S. bank. Foreign $39.97, one year, U.S. funds drawn on U.S. bank. Foreign air mail subscriptions—please inquire. Second class postage paid at Peterborough, NH, and at additional mailing offices. (Canadian second class mail registration number 9565.) Phone: 603-924-9471. Entire contents copyright 1986 by CW Communications/Peterborough, Inc. No part of this publication may be printed or otherwise reproduced without written permission from the publisher. Postmaster: send address changes to *RUN*, Subscription Services, PO Box 954, Farmingdale, NY 11737. (Send Canadian changes of address to *RUN*, PO Box 1051, Fort Erie, Ontario, Canada L2A 5N8.) Nationally distributed by International Circulation Distributors. *RUN* makes every effort to assure the accuracy of articles, listings and circuits published in the magazine. *RUN* assumes no responsibility for damages due to errors or omissions.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

DEPARTMENTS

6 RUNning Ruminations
ReRUN 1986—Bigger and Better

8 Magic
Hints and tips that let you perform computing wizardry.

16 Software Gallery
CalKit
Fast Tracks
Snow Drifts and Sunny Skies
Maps 64 USA
Real Estate 64
The Whole Bit
The Halley Project

106 The Resource Center
Computer networking is the topic of this month's education column.

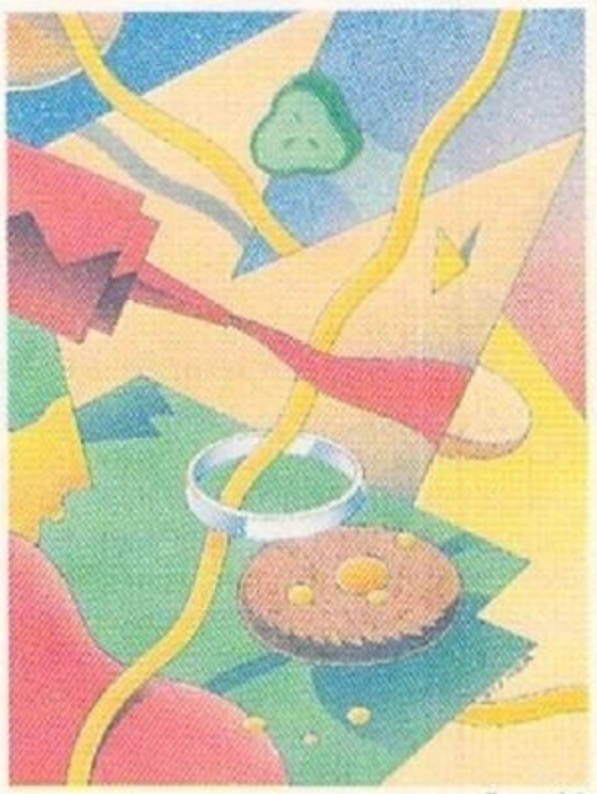
110 Commodore Clinic
A questions-and-answers column to help your ailing computer.

114 Hardware Gallery
Okidata 120 Printer
MIDI Interface
Super Graphix Printer Interface

118 Checksums for 1985 Programs
The first of a series of checksum listings for programs published last year before C-64 Perfect Typist appeared in September. We cover August programs this month.

122 New Products RUNdown

Page 66



Page 80

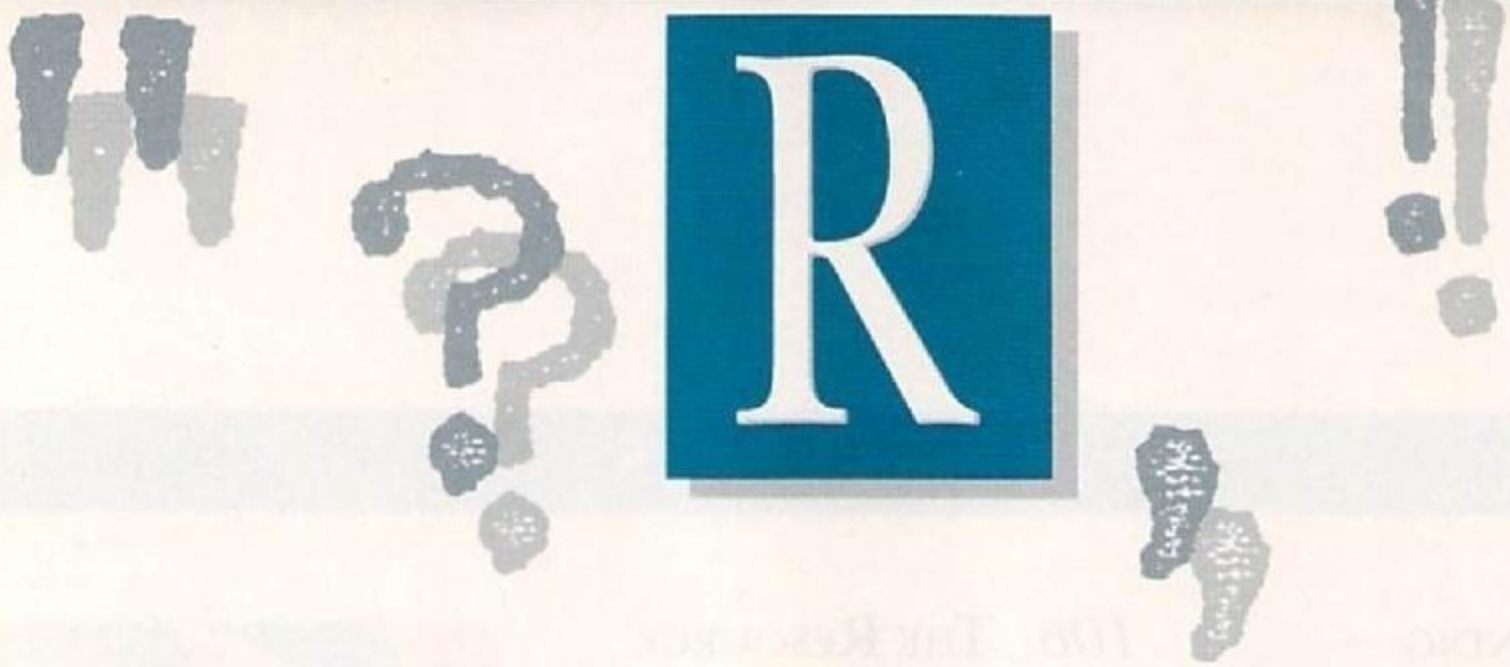
126 How to Type In Listings

127 RUN Amok

128 Coming Attractions

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



An Improved ReRUN

ReRUN promises to be bigger and better than ever in 1986. . .and, you'll see it more often!

Since its inception in 1984, ReRUN has been a vital support product for *RUN* magazine. It eliminates the tedium of entering program listings from the magazine, along with any risk of entry error.

We have recently surveyed our ReRUN audience to see how we could serve them better with an improved product. The survey responses corroborated our own observations about ReRUN:

—ReRUN users want to see more programs.

—respondees would like to see ReRUN offered more frequently.

—respondees consider the accompanying booklet helpful and want to see the documentation continue to be offered in the booklet, as opposed to relying on articles in the magazine.

—ReRUN users would like to have ReRUN offered on a subscription basis.

—most respondees would like to be offered never-before-published programs, in addition to those offered in the magazine.

In response to the concerns and interests of our readers, ReRUN 1986 will be offered on a bimonthly, instead of a quarterly, basis. *All* of the programs published in *RUN* will be made available on ReRUN, and each bimonthly ReRUN will contain two months' worth of programs published from *RUN*.

So, for example, the February 1986 version of ReRUN will contain every program published in the January and February issues of *RUN*. The next ReRUN—in April—will contain March and April's *RUN* programs, and so on.

This format allows you to receive *all* of *RUN*'s programs; you will no longer be limited to selected programs. And, ReRUN users will not have to wait as long from the time programs appear in *RUN* to the time they become available on ReRUN.

Here's a sampling of some of the kinds of programs you can expect on ReRUN this year:

—Productivity. ReRUN will cover this topic in a big way in 1986, with C-64 and C-128 programs that increase your word processing, spreadsheet, database and telecommunications skills.

—Utilities. Disk utilities, music utilities, graphics utilities, programming utilities and more. These programs will let you take full advantage of your system's capabilities and make your computer easier to use.

—Applications. Whether you use your Commodore computer in the home, office or at school, you'll find interesting applications in each and every issue of ReRUN.

—C-128 mode. ReRUN 1986 is committed to providing C-128 owners with programs to use in 128 mode, as well as in 64 mode.

—Bonus programs. In addition, each ReRUN issue will contain a never-before-published program.

If you're interested in receiving more great Commodore programs six times a year, see the ReRUN ad elsewhere in this issue, or write to ReRUN, 80 Pine St., Peterborough, NH 03458.

Trailblazers

That pioneering spirit—so vital to the beginnings of the computer industry and essential to its continuation—is alive and well in this issue of *RUN*. "Ultra Hi-Res Graphics" represents a dramatic breakthrough in 80-column graphics capability on the C-128.

The authors, Louis Wallace and David Darus, have uncovered capabilities of the C-128 no one—not even Commodore engineers—knew existed. To learn about their programming efforts, which produce C-128 high-resolution comparable to that found on an IBM PC, turn to p. 34.

RUN is pleased to be able to bring you this exciting, heretofore undocumented information. Articles such as this help to keep *RUN* readers riding the wave of the Commodore computing industry.

db

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Publisher
Stephen Twombly

Editor-In-Chief
Dennis Brisson
Managing Editor/Production
Swain Pratt
Copy Editor
Marilyn Annucci
Review Editor
Susan Tanona
New Products Editor
Harold Bjornsen

Technical Manager
Margaret Morabito
Technical Editor
Timothy Walsh

Associate Editors
Christine Adamec, Robert Baker, Louis F. Sander, Jim Strasma, Guy Wright

Advertising Sales Manager
Stephen Robbins
Sales Representatives
Ken Blakeman, Nancy Potter
Ad Coordinator
Heather Paquette
1-800-441-4403
Marketing Coordinator
Wendie Haines
West Coast Sales
Giorgio Saluti, manager
1-415-328-3470
1060 Marsh Road
Menlo Park, CA 94025

Art Director
Glenn Suokko
Production/Advertising Supervisor
Rosalyn Scribner
Editorial Design
Anne Dillon
Karla M. Whitney

Graphic Services Manager
Dennis Christensen
Film Preparation Supervisor
Robert M. Villeneuve
Typesetting Supervisor
Linda P. Canale
Typesetter
Doreen Means

Manufacturing Manager
Susan Gross

President/CEO
James S. Povec
Vice-President/Finance
Roger Murphy
Vice-President of Planning and Circulation
William P. Howard
Business Manager
Matt Smith
Executive Creative Director
Christine Destrempes
Circulation Manager
Frank S. Smith
Direct & Newsstand Sales Manager
Raino Wirein
800-343-0728
Director of Credit Sales & Collections
William M. Boyer
Founder
Wayne Green

Circle 137 on Reader Service card.

GUARANTEED SOFTWARE

NEW

VIZASTAR for the C128

Vizastar, the integrated spreadsheet, database and graphics program that has the Commodore 64 world raving, is now available for the C128. It boasts 80 columns, and has over 40K of free memory in the spreadsheet. Those who already own Vizastar 64 will be pleased to know that your existing files can be read by Vizastar 128. Also, you can upgrade to the 128 version. Call us for details and pricing.

"The only other comparable product would be Lotus 1-2-3 for the IBM PC; nothing in the C64 world comes even close to the features of Vizastar."

AHOY July 85

"I found Vizastar would do anything Lotus 1-2-3 could, and then some. It's my Commodore choice to become the standard against which the others will be judged."

INFO 64 Magazine, Issue #7

"Vizastar is an exceptional package that rivals the features of programs such as Lotus 1-2-3 and offers C64 owners the kind of integrated software previously only available for higher-priced systems."

RUN Magazine, June 1985

"I scrutinized, tested and experimented with Vizastar extensively, but could find no weaknesses whatsoever. It is the most comprehensive, most flexible, most powerful and easiest to use integrated software package I've worked with."

Commodore Microcomputer, Sept/Oct 1985

"I use an IBM PC at work with Lotus 123. I feel Vizastar is just as good and in someways better than 1-2-3."

Steven Roberson, NC. End User

"I have used Multiplan and Superbase; both are good pieces of software, but are inadequate when compared to Vizastar."

Jim Mathews, WA. End User

"So good, I bought a second C64 and Vizastar for my office. A wild bargain! You've saved me from having to buy IBM and Lotus."

Philip Ressler, MA. End User

NEW

VIZAWRITE CLASSIC for C128

This is the new word processor from Vizastar's author, Kelvin Lacy and is the successor to Omniwriter, which he also wrote. All the features of Omniwriter are there, plus many significant enhancements, like auto pagination, on-line help, pull-down menus, full-function calculator and more. Up to 8 'newspaper-style' variable-width columns can help with newsletters.

Three different proportionally-spaced "near letter quality" fonts are also built-in for use with Commodore or Epson compatible printers. You can merge almost any other word processor file directly into Vizawrite, including Paper Clip and Omniwriter. Naturally, it is also compatible with Vizastar. At all times, what you see on the screen is exactly the way it will be printed out. Vizawrite can do mail-merges and has an integrated 30,000 word spelling checker that you can expand yourself.

PROGRAM SPECIFICATIONS

Both Vizawrite and Vizastar are written in 100% machine language and run in the 128's FAST mode, making it lightning fast. They require a C128 with 80 column color or monochrome monitor. Both come with a cartridge, a diskette, a backup, and a reference manual. Vizastar also includes a 50 page tutorial book. Both work with 1541 or 1571 disk drives.

RISK-FREE OFFER

Vizastar 128 is priced at **$119.97.** Vizawrite's price is **$79.97.** Vizastar 64 XL8 is now available for **$119.97.** We are so positive you will be satisfied with our programs that we offer a 15-day money-back guarantee. Try it Risk-Free. Call us today or send a check or money order. VISA/MC accepted.

Calif. residents add 6.5% Sales Tax.
Add P&H: UPS-$4; COD/Canada-$7.

SOLID STATE SOFTWARE

1125 E. Hillsdale Blvd., Suite 104
Foster City, CA 94404-1609
(415) 341-5606

• Dealer Inquiries Welcome •

Trademarks: Lotus 1-2-3/Lotus Development
Commodore 64/Commodore Electronics Ltd. Multiplan/Microsoft

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MAGIC

Compiled by LOUIS F. SANDER

MAGIC is tricks, MAGIC is fun. MAGIC is doing what cannot be done.

Every month, Magic brings you brief and useful computer tricks from around the world—tricks to make computing easier, more enjoyable or more exciting. We number our tricks in hex, the counting system of sorcerers and computerists.

Magic solicits your simple hardware ideas, short programs, useful programming techniques, little-known computer facts and similar items of interest. We look for new or recycled material that can be implemented with a minimum of time, effort or theoretical knowledge and that is of current value to Commodore computerists (Plus/4 and C-16 owners, too). RUN *will pay up to $50 for each trick accepted. Send your tricks to:*

MAGIC
c/o Louis F. Sander
PO Box 101011
Pittsburgh, PA 15237

If you enclose a self-addressed stamped envelope, we'll send you a Trick Writer's Guide. Readers outside the United States may omit the stamp.

This season always brings a wave of new readers to Magic and to *RUN*. If you are one of them, we welcome you and invite you to become a regular. You're sure to find, as thousands have found, that Magic is a vital source of instruction, ideas and inspiration. In bringing these treasures to light, we never forget the newcomers, who need such guidance.

Nor do we forget the seasoned veterans, since they give us our best items and always appreciate a better way of doing things. They tell us, in fact, that many advances in computing are first presented in Magic. What all this means, of course, is that in the world of Commodore computing, the best ideas show up in Magic. And what that means, of course, is that if you have or need a great idea, the place to come is Magic.

$2A5 Funny Valentine—Can a computer program make you cry? Depending on your mood, it might. This one, for the C-64 or the C-128 in 64 mode, plays a bell-like rendition of this well-known bittersweet song.

```
10 PRINT"{SHFT CLR}VALENTINE - JOSEPH R. CH
   ARNETSKI":PRINT
20 FORJ=1TO154:READK:CS=CS+K:NEXT:IFCS<>624
   5THENPRINT"DATA ERROR!":STOP
30 RESTORE:S=54272:V=S+24:FORJ=STOV-1:POKEJ
   ,0:NEXT:POKEV,15
40 READN,D:IFD=255THENPRINT"MAGIC!":END
50 POKES+1,N:POKES+5,9:POKES+15,9
60 POKES+4,17:FORDL=1TOD*250:NEXT
70 POKES+4,0:FORDL=1TO45:NEXT:GOTO40
71 DATA 59,3,67,1,71,1,67,1,71,1,67,5
72 DATA 59,2,67,1,71,1,67,1,71,1,67,6
73 DATA 59,2,67,1,71,1,106,3,94,1,89,1
74 DATA 79,7,71,1,67,1,106,3,71,1,71,2
75 DATA 67,1,71,5,71,1,67,1,119,3,71,1
76 DATA 71,2,67,1,71,5,71,1,67,1,134,3
77 DATA 71,1,71,2,67,1,71,3,79,1,89,1
78 DATA 119,5,71,2,79,1,89,1,79,1,89,1
79 DATA 79,3,71,5,59,2,67,1,71,1,106,3
80 DATA 94,1,89,1,79,7,59,2,67,1,71,1
81 DATA 67,1,71,1,67,3,71,2,79,1,89,1
82 DATA 79,1,89,1,79,3,71,2,79,1,89,1
83 DATA 79,1,89,1,79,3,71,10,0,255
```

Joseph R. Charnetski
Dallas, PA

$2A6 Better video display—Don't forget your monitor's video controls, since their proper adjustment can make an amazing difference in your picture. When using my word processor, I turn the color control all the way down; by removing the color fringe around the letters, it makes things much easier on the eyes.

Lucy S. Terrier
Alton, IL

$2A7 Colorful Print Shop—Output from the popular Print Shop program can be brightened up by using colored marker pens. It's easy to color The Print Shop text and designs, and with the range of colors available in

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 2 on Reader Service card.

POWERFUL C128 SOFTWARE

– BUT DON'T TAKE OUR WORD, SEE WHAT THE EXPERTS SAY!

WORD WRITER 128 with Spell Checker*

An 80-column professional word processing system for home and business use. Includes an 85,000 word spelling checker, built-in 5 function calculator, and on-screen highlighting.

"... Using WORD WRITER 128 is an absolute joy ... We found nothing but the highest quality."
Run Magazine

SWIFTCALC 128 with Sideways*

A powerful, easy-to-use electronic spreadsheet designed especially for home and small business use.

"... Everything you could possibly need is present in SWIFTCALC 128."
Run Magazine

"... SWIFTCALC 128 has most of the features of Lotus 1-2-3."+
Ahoy Magazine

+ And at less than half the price!

DATA MANAGER 128 with Report Writer*

A complete general information storage and retrieval system with report writing, graphics, statistics, and label making capabilities.

"... A powerful and flexible database management system that takes full advantage of the C128's potential."
Run Magazine

* WORD WRITER 128, SWIFTCALC 128, and DATA MANAGER 128 interface with each other. YOUR PERSONAL FINANCIAL PLANNER interfaces with WORD WRITER 128.

SYLVIA PORTER'S PERSONAL FINANCIAL PLANNER*

All the computer tools you'll ever need to help manage your money on a day-to-day basis *and plan your financial future, too.*

"... By far the most thorough and readable manual, one that will take you keystroke by keystroke through the construction of budgets and analysis of finance ... The screen layout was the best of the programs we looked at ... For beginners especially, it's a real standout."
New York Post

SIDEWAYS

The ingeniously simple software program that rotates your spreadsheet by 90 degrees as it prints out and causes your hard copy to print out – you guessed it – *sideways.*

"... One small program that solves a big problem for computer users."
New York Times

Our customer technical support gets great reviews, too!

"... The good news starts as soon as you open the package. A toll-free customer hotline number is printed on the inside front cover of the documentation for each program. The support person I spoke with knew the systems and specializes in them exclusively."
Ahoy Magazine

Back-up program disks can be purchased from Timeworks at a nominal charge. And, with every Timeworks program you're protected by our liberal UPGRADE AND EXCHANGE POLICY. Details are inside every Timeworks package.

Timeworks Money Back Guarantee**

If you can find anything that works better for you, simply send us your Timeworks program, your paid receipt, and the name of the program you want, along with your check or credit card number for any retail price difference. If it's available, we'll buy it for you.***

IF YOU CAN FIND A BETTER PROGRAM WE'LL BUY IT FOR YOU**

TIMEWORKS®

More power for your dollar

Timeworks, Inc., 444 Lake Cook Rd., Deerfield, IL 60015 (312) 948-9200

***Offer valid 90 days from date of purchase

© 1985 Timeworks, Inc. All rights reserved.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

markers today, your creativity can be virtually unlimited. Give this idea a try the next time you do something with The Print Shop. It's extremely easy to do, and the results must be seen to be believed.

Roger Baillie
Kensington, PEI
Canada

$2A8 Modem buyer's guide—Unless you've used both of them at length, it's hard to know whether to buy a 300-baud modem or a more expensive 1200-baud unit. I worked at 300 baud for over a year, then upgraded to 1200. In my opinion, the speed and convenience of 1200 baud make the faster modem a significantly better investment for most people.

Although 300-baud units are tantalizingly inexpensive, they are s-l-o-w, and their slowness diminishes the value of the on-line experience. In many cases, operations that are great at 1200 baud are tedious and unpleasant at 300. If you start out at 300 baud, you might wrongly decide that on-line work is not your cup of tea.

Some on-line services (QuantumLink, for example) have uniform rates, regardless of the speed of your modem. In those cases, your connect-time savings can quickly offset the additional purchase cost of a 1200-baud modem. (Let's say you're downloading an interesting program. What takes ten minutes at 1200 baud takes 40 minutes at 300. Compare the savings in money and personal time, and you'll start to get the picture.) Also, if one day you want to sell your modem, you'll find more buyers and better prices if you're offering a 1200-baud unit.

When choosing your modem, you should also consider how it connects to the telephone system. Most modems connect directly to the phone line via a modular connector; modular cables and connectors are readily available at Radio Shack and elsewhere. Some modems connect, not to the phone line, but to the handset, via a smaller modular connector. If your telephone doesn't use such a connector (and many don't), you can't use these modems with it at all. Also, handset connectors and cables can be hard or impossible to find in stores.

The final means of connection, seldom seen these days, is acoustic coupling. Here, there's no wiring at all between the modem and the phone line. Instead, the telephone handset is placed in a cradle with rubber cups, and the tones are coupled acoustically. This is the least desirable method of connecting your modem.

The bottom line is this: Unless you can't afford it, start off with a 1200-baud modem. And regardless of which speed you choose, look for a modem that connects directly to the phone line, rather than to the handset.

Louis F. Sander
Pittsburgh, PA

$2A9 QuantumLink scrolling—Whenever text scrolls off the screen in QuantumLink, you can recall up to 85 lines of it at the press of a key. Just press the cursor-up key and watch the previous text scroll down from the top of the screen.

This feature is particularly useful when you're in an ongoing dialogue with other users, such as in the Conference Centers and in People Connection.

Al G. Bell
Boston, MA

$2AA C-128 slow listing—When you want to slow down a C-128 listing or other printout, just press the Commodore logo key. This performs the same function as pressing the CTRL key on the Commodore 64.

Robert B. Cook
Braintree, MA

$2AB C-128 bytes free—At power-up, the f8 function key activates the machine language monitor, which is a feature that most of us seldom use. I redefine that key to give me something more valuable—an instantaneous reading of the amount of remaining memory. Doing the magic is simple:

```
KEY 8, "?FRE(0)" + CHR$(13)
```

Gerhard Schilling
Hemet, CA

$2AC C-128 ESC key—There are several errors in the C-128 system guide's description of the escape sequences. On my machine, for example, ESC A activates Automatic Insert mode, while ESC C cancels it. ESC C does *not* cancel Quote mode, as stated in the manual.

ESC O is a powerful sequence that cancels Quote mode, RVS mode and the 80-column Flash (CTRL O) and Underline (CTRL B) modes. Contrary to the manual's description, ESC O does *not* cancel the Automatic Insert mode.

Be sure you use the proper technique with all escape sequences—first you press and release the ESC key, and then you press the others. It's totally different from using shift or CTRL, where the keys must be pressed at the same time.

Jim Borden
Carlisle, PA

$2AD C-128 40/80 display key sense—This key's status can be detected by Peeking location 54533, then ANDing the result with 128. If the final result is zero, the key is depressed, or in the 80-column position. If the final result is 128, the key is released, or in the 40-column position.

Remember that the computer uses this key to set the display *only* when it is reset or when the stop/restore combination is pressed. Since ESC X can be used at any time to switch displays, the status of the 40/80 key cannot be used to tell which display is in use. With the Peek given above, it *can* be used as a handy push-on, push-off controller.

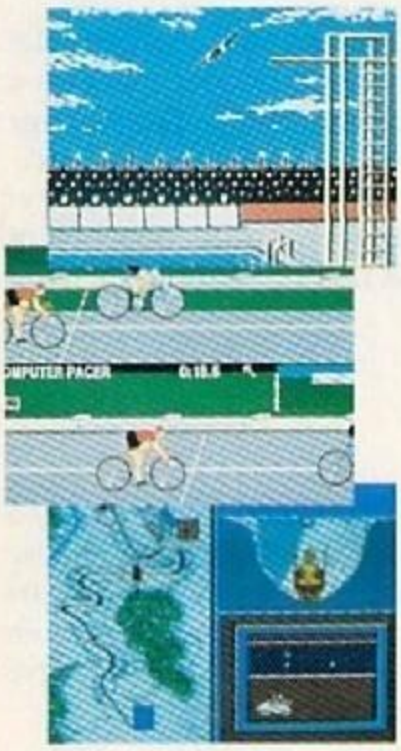
Ken Garber
Windsor, Ontario
Canada

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

22 FAST-PACED, EXCITING EVENTS. GO FOR THE GOLD!



SUMMER GAMES.®
Want some great play action? This award winning best seller brings you eight great events, including Swimming, Diving, Track, Gymnastics, and more. Compete against world records. Or get together with a group of up to eight for some good competitive *fun*. Realistic, graphics and *action* will challenge you again and again to *go for the gold.*

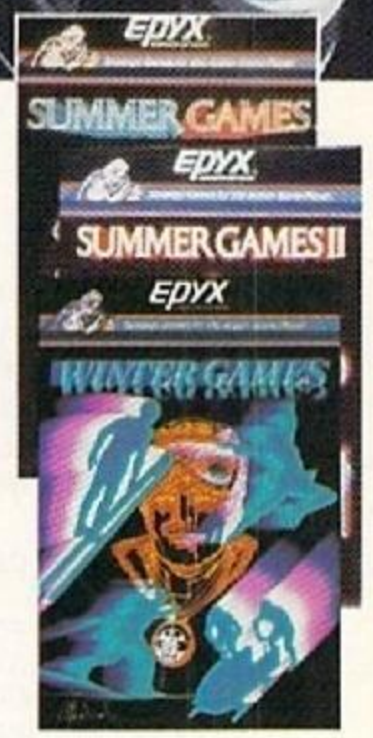
SUMMER GAMES II.™
You asked us for more great events. Here they are. Rowing, Triple Jump, Javelin, High Jump, Fencing, Cycling, Kayaking, even Equestrian. Like SUMMER GAMES, you get spine tingling *action and challenge* for one to eight players. These aren't just games. They're *the games.* And you're the star.

WINTER GAMES.™
You've got to see the graphics, and *feel* the knot in your stomach as your bobsled careens along the walls of the run to know why people are wild over WINTER GAMES. Seven events give you a variety of action—from the endurance of the Biathlon to the timing of the Ski Jump, and more.

What are you waiting for?
Play your favorite events over and over. Play all 22. Set up teams. Challenge your friends. These great action-strategy games are sure to be the stars of *your* collection.

At your local Epyx dealer.

	APPLE	MAC	ATARI	C64/128
Summer Games	✓		✓	✓
Summer Games II	✓			✓
Winter Games	✓	✓		✓



* See specially marked boxes for details. No purchase necessary. Sweepstakes ends Dec. 31, 1985. Official rules available at participating dealers.

EPYX® COMPUTER SOFTWARE
1043 Kiel Ct., Sunnyvale, CA 94089

Strategy Games for the Action-Game Player®

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

$2AE C-128 tab stops—The manual doesn't give the whole story on setting and clearing tab stops. You can clear all tab stops by pressing and releasing the ESC key, then pressing and releasing Z. You can restore the default tab stops by using ESC Y in the way described above. You can set or clear a tab stop by moving your cursor to the desired position and pressing [SHIFT TAB] or [CTRL X].

Jerry W. Jarvis
Spokane, WA

$2AF Spritebusters—This sprightly sprite is out of sight! In white and red on any suitable background, he's *very* much worth seeing. Lines 10–90 are a multicolor version of the Sprite Demo program we've printed in our 1986 Special Issue. If you already have that program, just change line 60 to read as shown, add the sprite and watch that you don't get slimed.

```
10 REM MULTICOLOR SPRITEDEMO C-64 - LFS
20 POKE53281,16:PRINT"{SHFT CLR}{COMD 7}{4
   CRSR DNs}"
30 FORS=832TO894:READT:POKES,T:NEXT
40 V=53248:POKE2040,13:REM SPRITE AREA
50 POKEV+21,1:REM DISPLAY SPRITE
60 POKEV+28,1:POKEV+37,1:POKEV+38,2:POKEV+3
   9,2:REM MULTICOLOR SETUP
70 POKEV+1,60:REM Y POSITION
80 FORJ=1TO255:POKEV,J:NEXTJ:REM X POS
90 LIST
91 REM SPRITEBUSTERS - TIM WHITECOTTON
92 DATA 000,001,064,000,021,080,000,085
93 DATA 064,003,085,064,005,153,240,005
94 DATA 085,240,053,085,124,245,153,127
95 DATA 065,101,255,213,087,255,197,095
96 DATA 195,085,127,065,193,253,087,195
97 DATA 253,087,255,213,085,255,085,067
98 DATA 253,085,079,061,085,124,015,215
99 DATA 240,015,255,240,003,255,192,000
```

Tim Whitecotton
Manson, IA

$2B0 Racehorse—This program packs so much into a short space that we've waived Magic's usual limit of one screenful for the listing. Usable on the C-64 or on the C-128 in 64 mode, it shows an animated galloping racehorse, complete with jockey and sound effects. If you want to use the sprites elsewhere, they're presented in our normal form; each sprite corresponds to one position of the galloping horse.

```
10 PRINT"{SHFT CLR}{COMD 7}RACEHORSE - BOB/
   DAVE SNADER"
20 POKE53281,1:FORJ=832TO959:READK:POKEJ,K:
   NEXT:B=13:S=54296:V=53248
30 POKE2040,B:FORJ=0TO100:NEXT:POKEV+21,1:P
   OKEV+39,9:POKEV+1,150:POKEV,X:X=X+5
40 FORJ=5TO15STEP5:POKES,J:POKES,0:FORK=0TO
   50:NEXT:NEXT:IFX=255THENEND
50 B=14+(B=14):GOTO30
51 DATA 000,000,000,000,000,000,000,000
52 DATA 000,000,000,000,000,000,000,000
53 DATA 001,000,000,003,192,000,003,128
54 DATA 000,030,016,048,063,188,121,190
55 DATA 127,135,255,255,015,255,240,015
56 DATA 255,224,007,255,192,007,255,192
57 DATA 015,057,224,018,000,176,011,128
58 DATA 144,004,069,096,002,002,000,000
59 REM
60 DATA 000,000,000,000,000,000,000,000
61 DATA 000,000,000,000,000,000,000,000
62 DATA 002,000,000,007,128,000,007,000
63 DATA 000,030,016,048,063,188,249,190
64 DATA 127,007,255,255,015,255,240,015
65 DATA 255,224,007,255,192,007,255,192
66 DATA 015,057,224,028,000,216,054,001
67 DATA 160,065,000,016,128,000,008,000
```

Bob and David Snader
Baltimore, MD

$2B1 Easy SEQ file viewing—When I am writing programs that create sequential files, I often want to examine the files to find if they're being properly put together. I just use my Easy Script word processor and load the files as though they were regular Easy Script documents.

If I need to edit the file, I use Easy Script; then I save the file as I would any document.

Tom Kinsel
Sandusky, OH

$2B2 Reading the status variable—When working with disk files, it's useful to check ST, the computer's status variable, to determine when the end of file has been reached. If you're also checking for disk errors by reading channel 15, you must always make the error check after the status check. Disk error checking sets ST to 64, which is also the end-of-file value.

Keith W. Marshall
San Juan, Trinidad

$2B3 Disk drive speed adjustment—I adjusted the speed of my 1540 with the drive upside down. However, when I put it right-side up, there was a noticeable change in speed. Cure: While the drive was right-side up, I removed the necessary covers, then used a mirror to reflect the light onto the stroboscope pattern. In the absence of a fluorescent light source, I used the all-white light from my monitor screen.

Erkki I. Suikki
Vaasa, Finland

$2B4 Fast Load flakiness—This popular cartridge is a wonderful help in disk operations, but it tends to cause programming problems. If something unusual occurs with my Fast Load-equipped computer, especially when working with files or the printer, I can usually resolve the problem by disabling my Fast Load cartridge.

Donald E. Griffey
Hopkinsville, KY

Continued on p. 86.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

EPYX PRESENTS LUCASFILM GAMES.™ THE EIDOLON™

© 1985 LFL

You've just discovered the Eidolon—a curious 19th century machine whose inventor vanished without a trace. Only his journals and sketches remain. They tell of an incredible magical realm—a maze of caverns populated by strange creatures noted as Greps, Biter Birds and Bottlenecks. And "intelligent" Guardian Dragons—who hurl colored fireballs of energy?

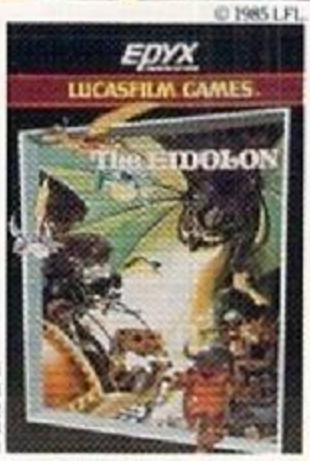
The machine itself belies its quaint Victorian charm. For the Eidolon glows with the power of enchanted energy. It awaits, pristine and gleaming—perfectly preserved for over a hundred years by the powerful forces that propelled it and its pilot to another dimension.

With the fascinating first-person point of view, you can climb into the pilot's chair and fly this mysterious magical machine. And the haunting fractal graphics take you deeper and deeper into an endless maze of mystical caverns.

An adventure so real, it'll make you wonder: What ever happened to the Eidolon's mysterious inventor? Only the adventurous of spirit will know his fate. The Eidolon—scientific curiosity, or passport to a magical dimension?

	C64/128	ATARI	APPLE
The Eidolon	✓	✓	✓

© 1985 LFL



© 1985 LFL

* See specially marked boxes for details. No purchase necessary. Sweepstakes ends Dec. 31, 1985. Official rules available at participating dealers.

EPYX® COMPUTER SOFTWARE
1043 Kiel Ct., Sunnyvale, CA 94089

Strategy Games for the Action-Game Player®

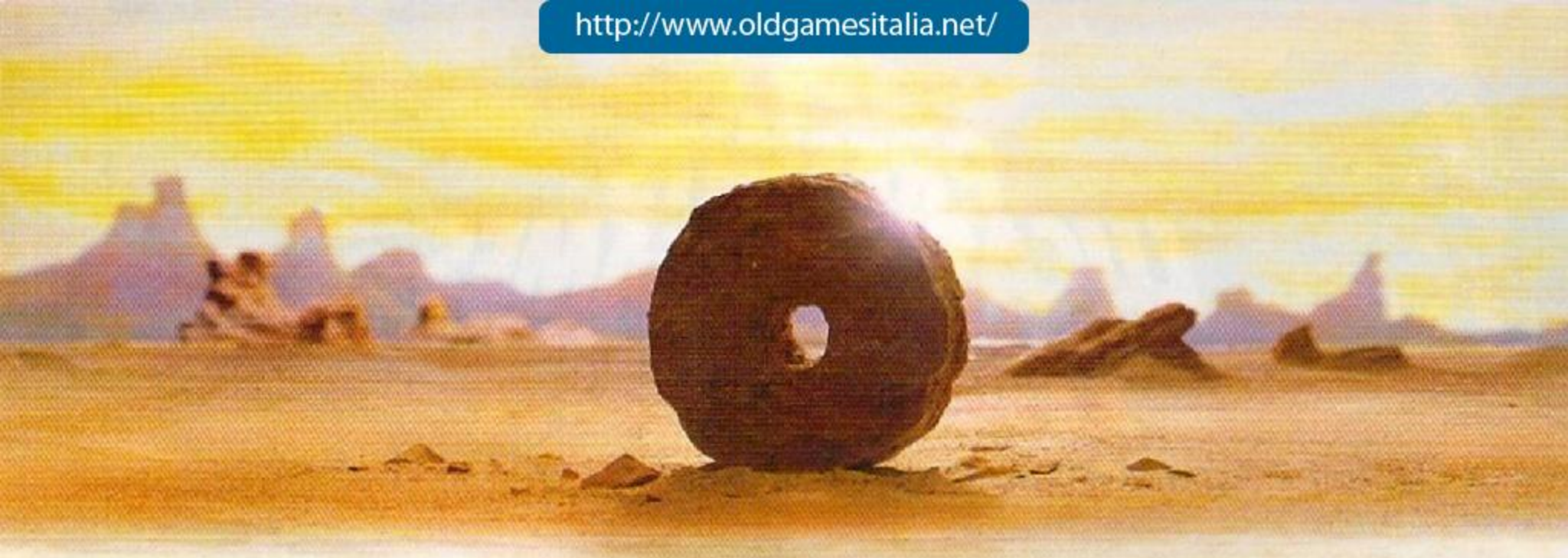
Lucasfilm Games, The Eidolon, and all elements of the game fantasy: TM & © 1985 Lucasfilm Ltd. (LFL). All Rights Reserved. Epyx, Inc., Authorized User ®: Registered Trademarks of Epyx, Inc.

Circle 12 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



SOME HISTORIC BREAKTHROUGHS DON'T TAKE AS MUCH EXPLAINING AS COMPUSERVE.

But then, some historic breakthroughs could only take you from the cave to the tar pits and back again.

CompuServe, on the other hand, makes a considerably more civilized contribution to your life.

It turns that marvel of the 20th century, the personal computer, into something useful.

Unlike most personal computer products you read about, CompuServe is an information service. It isn't software. It isn't hardware. And you don't even have to know a thing about programming to use it. You subscribe to CompuServe —and 24 hours a day, 7 days a week, it puts a universe of information, entertainment and communications right at your fingertips.

A few of the hundreds of things you can do with CompuServe.

COMMUNICATE

EasyPlex™ Electronic Mail lets even beginners compose, edit, send and file messages the first time they get online. It puts friends, relatives and business associates—anywhere in the country —in constant, convenient touch.

CB Simulator features 72 channels for "talking" with thousands of other enthusiastic subscribers throughout the country and Canada. The chatter is frequently hilarious, the "handles" unforgettable, and the friendships hard and fast.

More than 100 Forums welcome your participation in "discussions" on all sorts of topics. There are Forums for computer owners, gourmet cooks, investors, pilots, golfers, musicians, you name it! Also, Electronic Conferencing lets businesses put heads together without anyone having to leave the shop.

Bulletin Boards let you "post" messages where thousands will see them. You can use our National Bulletin Board or the specialized Bulletin Boards found in just about every Forum.

HAVE FUN

Our full range of games includes "You Guessed It!", the first online TV-style game show you play for real prizes; and MegaWars III, offering the ultimate in interactive excitement. And there are board, parlor, sports and educational games to play alone or against other subscribers throughout the country.

Movie Reviews keep that big night at the movies from being a five star mistake.

SHOP

THE ELECTRONIC MALL℠ gives you convenient, 24-hour-a-day, 7-day-a-week shopping for name brand goods and services at discount prices from nationally known stores and businesses.

SAVE ON TRIPS

Travelshopper℠ lets you scan flight availabilities (on virtually any airline — worldwide), find airfare bargains and order tickets right on your computer.

Worldwide Exchange sets you up with the perfect yacht, condo, villa, or whatever it takes to make your next vacation *a vacation*.

A to Z Travel/News Service provides the latest travel news plus complete information on over 20,000 hotels worldwide.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 64 on Reader Service card.

MAKE PHI BETA KAPPA

Grolier's Academic American Encyclopedia's Electronic Edition delivers a complete set of encyclopedias right to your living room just in time for today's homework. It's continuously updated ... and doesn't take an inch of extra shelf space.

The College Board, operated by the College Entrance Examination Board, gives tips on preparing for the SAT, choosing a college and getting financial aid.

KEEP HEALTHY

Healthnet will never replace a real, live doctor—but it is an excellent and readily available source of health and medical information for the public.

Human Sexuality gives the civilization that put a man on the moon an intelligent alternative to the daily "Advice to the Lovelorn" columns. Hundreds turn to it for real answers.

BE INFORMED

All the latest news is at your fingertips. Sources include the AP news wire (covering all 50 states plus national news), the Washington Post, USA TODAY Update, specialized business and trade publications and more. You can find out instantly what Congress did yesterday; who finally won the game; and what's happening back in Oskaloosa with the touch of a button. And our electronic clipping service lets you tell us what to watch for. We'll electronically find, clip and file news for you...to read whenever you'd like.

INVEST WISELY

Comprehensive investment help just might tell you more about the stock you're looking at than the company's Chairman of the Board knows. (Don't know who he is? Chances are, we can fill you in on that, too.) CompuServe gives you complete statistics on over 10,000 NYSE, AMEX and OTC securities. Historic trading statistics on over 50,000 stocks, bonds, funds, issues and options. Five years of daily commodity quotes. Standard & Poor's. Value Line. And more than a dozen other investment tools.

Site II facilitates business decisions by providing you with demographic and sales potential information by state, county and zip code for the entire country.

National and Canadian business wires provide continuously updated news and press releases on hundreds of companies worldwide.

GET SPECIALIZED INFORMATION

Pilots get personalized flight plans, weather briefings, weather and radar maps, newsletters, etc.

Entrepreneurs use CompuServe too for complete step-by-step guidelines on how to incorporate the IBMs of tomorrow.

Lawyers, doctors, engineers, military veterans and businessmen of all types use similar specialized CompuServe resources pertinent to their unique needs.

And now for the pleasant surprise.

Although CompuServe makes the most of any computer, it's a remarkable value. With CompuServe, you get low start-up costs, low usage charges and local phone-call access in most major metropolitan areas.

Here's exactly how to use CompuServe.

First, relax.

There are no advanced computer skills required.

In fact, if you know how to buy breakfast, you already have the know-how you'll need to access any subject in our system. That's because it's "menu-driven," so beginners can simply read the menus (lists of options) that appear on their screens and then type in their selections.

Experts can skip the menus and just type in "GO" followed by the abbreviation for whatever topic they're after.

In case you ever get lost or confused, just type in "H" for help, and we'll immediately cut in with instructions that should save the day.

Besides, you can either ask questions online through our Feedback service or phone our Customer Service Department.

How to subscribe.

To access CompuServe, you'll need a CompuServe Subscription Kit, a computer, a modem to connect your computer to your phone, and in some cases, easy-to-use communications software. (Check the information that comes with your modem.)

With your Subscription Kit, you'll receive:

- a $25 usage credit.
- a complete hardcover Users Guide.
- your own exclusive user ID number and preliminary password.
- a subscription to CompuServe's monthly magazine, *Online Today.*

Call **800-848-8199** (in Ohio, 614-457-0802) to order your Subscription Kit or to receive more information. Or mail this coupon.

Kits are also available in computer stores, electronic equipment outlets and household catalogs. You can also subscribe with materials you'll find packed right in with many computers and modems sold today.

☐ Please send me additional information.
☐ Please send me a CompuServe Subscription Kit.
☐ I am enclosing my check for $39.95, plus $2.50 handling. *(Add sales tax if delivered in Ohio.)*

Please make check payable to CompuServe Information Services, Inc.

☐ Charge this to my VISA/MasterCard

#_____

Expiration Date _____

Signature _____

Name _____

Address _____

City _____

State _____ Zip _____

MAIL TO:

CompuServe®

Customer Service Ordering Dept.
P.O. Box L-477
Columbus, Ohio 43260

PRI-2002

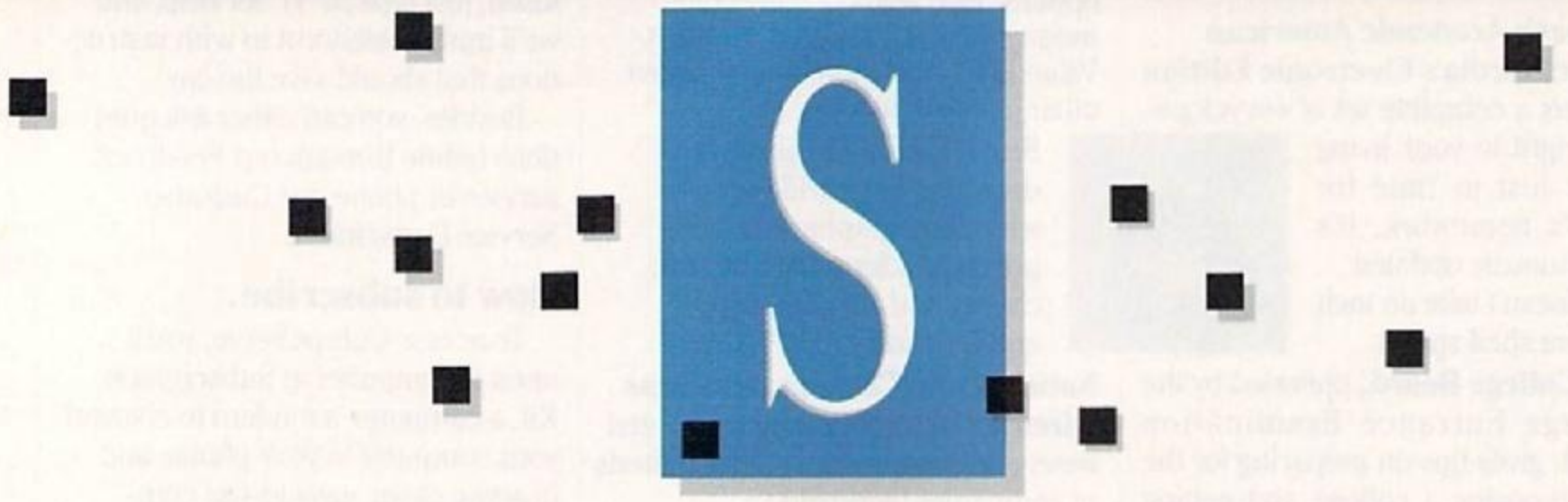
An H&R Block Company

EasyPlex and ELECTRONIC MALL are trademarks of CompuServe, Incorporated. Travelshopper is a service mark of TWA.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Compiled by SUSAN TANONA

CalKit

A High-Powered Spreadsheet for the Novice and Expert Alike

CalKit is a spreadsheet package designed to solve problems. It goes beyond the average spreadsheet program by offering 20 ready-made applications worksheets, each supported by a sample version filled with data. Unlike so many other programs that leave you wondering what to do next, CalKit quickly gets you up and running.

This is a full-featured spreadsheet with superb documentation. It offers help screens, simple commands, a quick-reference card and complete editing capabilities. Moving around the spreadsheet is easy to accomplish with the cursor keys.

You can integrate information from your spreadsheet into Batteries Included's PaperClip word processor, and you can create an 80-column viewing screen with the company's BI-80 plug-in module.

Included on the disk is a useful single-drive backup program that lets you make copies of your system disk and any data disks you create with the program. The software is not copy-protected, because CalKit can only run with a special key (dongle) inserted into control port 1. So, any copies that you make of the program are truly for backup purposes only.

CalKit is compatible with any printer that connects through the serial port of your C-64 or that connects to the computer with an IEEE interface. Owners of non-Commodore printers must go through a setup routine to select the appropriate secondary address and the control characters you'd like sent to your printer. This may require some experimentation for your printer and interface combination, but this program is definitely worth the time involved.

Other features of this spreadsheet include insertion and deletion of columns and rows; global and block formatting of values into decimal, scientific or graphic modes; variable column widths; and the option to copy cell contents, either by the individual cell or by blocks of cells.

Report Card

A ***Superb!***
An exceptional program that outshines all others.

B ***Very Good.***
One of the better programs available in its category. A worthy addition to your software library.

C ***Good.***
Lives up to its billing. No hassles, headaches or disappointments here.

D ***Mediocre.***
There are some problems with this program. There are better on the market.

E ***Poor.***
Substandard, with many problems. Should be deepsixed!

What really makes this program stand out are the ready-to-use, predesigned forms. Each form has a sample version and a blank version. There are forms for such uses as home budgeting, installment loans, starting a business, balancing your checkbook and monitoring your personal stock portfolio.

You simply use the sample form to get an idea of how it might be used, then switch to the blank form and start working. Or, you can change the blank form to suit your own particular application.

CalKit will probably encourage such users as homeowners, landscapers, teachers and students to enter the world of electronic spreadsheets, as the program offers example after example of how a spreadsheet can solve all kinds of problems.

CalKit is a high-powered program from a company that continues to demonstrate its commitment to bringing quality software to the Commodore market. *(Batteries Included, 30 Mural St., Richmond Hill, Ontario, Canada L4B 1B5. C-64/$49.95 disk.)*

Ken Silverstein
Raymond, NH

Fast Tracks

Get Your Slot Cars Up Off the Floor And Onto the Computer

Is there really room for another computer construction program? By now there are enough of them

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A Printer For All Reasons

Search For The Best High Quality Graphic Printer

If you have been looking very long, you have probably discovered that there are just too many claims and counter claims in the printer market today. There are printers that have some of the features you want but do not have others. Some features you probably don't care about, others are vitally important to you. We understand. In fact, not long ago, we were in the same position. Deluged by claims and counter claims. Overburdened by rows and rows of specifications, we decided to separate all the facts — prove or disprove all the claims to our own satisfaction. So we bought printers. We bought samples of all the major brands and tested them.

Our Objective Was Simple

We wanted to find that printer which had all the features you could want and yet be sold directly to you at the lowest price. We didn't want a "close-out special" of an obsolete product that some manufacturer was dumping, so we limited our search to only those new printers that had the latest proven technology. We wanted to give our customers the **best** printer on the market today at a bargain price.

The Results Are In

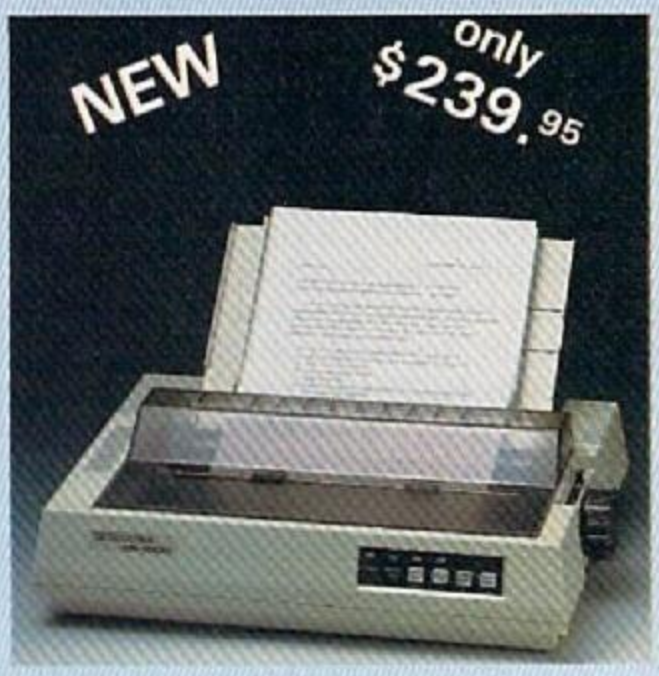
The search is over. We have reduced the field to a single printer that meets all our goals (and more). The printer is the SP-1000 from Seikosha, a division of Seiko (one of the foremost manufacturers in the world). We ran this printer through our battery of tests and it came out shining. This printer *can* do it all. Standard draft printing at a respectable 100 characters per second, and with a very readable 12 (horizontal) by 9 (vertical) character matrix. This is a full bi-directional, logic seeking, true descender printer.

"NLQ" Mode

One of our highest concerns was about print quality and readability. The SP-1000 has a print mode termed Near Letter Quality printing (NLQ mode). This is where the SP-1000 outshines all the competition. Hands down! The character matrix in NLQ mode is a very dense 24 (horizontal) by 18 (vertical). This equates to 41,472 addressable dots per square inch. Now we're talking ***quality*** printing. It looks like it was done on a typewriter. You can even print graphics using the standard graphics symbols built into your computer. The results are the best we've ever seen. The only other printers currently available having resolution this high go for hundreds more.

Features That Won't Quit

With the SP-1000 your computer can now print 40, 48, 68, 80, 96, or 136 characters per line. You can print in ANY of 35 character styles including 13 double width and 3 reversed (white on black) styles. You not only have the standard Pica, Elite, Condensed and Italics, but also true Superscripts and Subscripts. Never again will you have to worry about how to print H_2O or X^2. This fantastic machine will do it automatically, through easy commands right from your keyboard. Do you sometimes want to emphasize a word? It's easy, just use **bold** (double strike) or use *italics* to make the words stand out. Or, if you wish to be even more emphatic, underline the words. You can combine many of these modes and styles to make the variation almost endless. Do you want to express something that you can't do with words? Use graphics with your text — even on the same line. You have variable line spacing of 1 line per inch to infinity (no space at all) and 143 other software selectable settings in between. You can control line spacing on a dot-by-dot basis. If you've ever had a letter or other document that was just a few lines too long to fit a page, you can see how handy this feature is. Simply reduce the line spacing slightly and . . . VOILA! The letter now fits on one page.



Forms? Yes! Your Letterhead? Of Course!

Do you print forms? No problem. This unit will do them all. Any form up to 10 inches wide. The tractors are adjustable from 4 to 10 inches. Yes, you can also use single sheets. Plain typing paper, your letterhead, short memo forms, labels, anything you choose. Any size to 10" in width. In fact this unit is so advanced, it will load your paper automatically. Multiple copies? Absolutely! Use forms (up to 3 thick). Do you want to use spread sheets with many columns? Of course! Just go to condensed mode printing and print a full 136 columns wide. Forget expensive wide-carriage printers and changing to wide carriage paper. You can now do it all on a standard 8½" wide page, and you can do it quietly. The SP-1000 is rated at only 55 dB. This is quieter than any other impact dot matrix printer that we know of and is quieter than the average office background noise level.

Consistent Print Quality

Most printers have a ribbon cartridge or a single spool ribbon which gives nice dark printing when new, but quickly starts to fade. To keep the printers output looking consistently dark, the ribbons must be changed quite often. The SP-1000 solves this problem by using a wide (½") ribbon cartridge that will print thousands of pages before needing replacement. (When you finally do wear out your ribbon, replacement cost is only $11.00. Order *#2001.)*

The Best Part

When shopping for a printer with this quality and these features, you could expect to pay much more. *Not now!* We sell this fantastic printer for **only $239.95! You need absolutely nothing else to start printing — just add paper (single sheet or fanfold tractor).**

No Risk Offer

We give you a 2-week satisfaction guarantee. If you are not completely satisfied for any reason we will promptly refund your purchase. The warranty has now been extended to 2 years. The warranty repair policy is to repair or replace and reship to the buyer within 72 hours of receipt.

The Bottom Line

Be sure to specify the order # for the correct version printer designed for your computer.

Commodore C-64 & C-128, Order #2200, graphics interface & cable built in.

IBM-PC and compatibles, Order #2100, plus 8' shielded cable #1103, $26.00

Standard Parallel with 36 pin Centronics connector, Order #2400, no cable

Standard Serial with RS-232 (DB-25) Connector, Order #2500, no cable

We also have interfaces and cables for many other computers not listed. Call Customer Service at 805/987-2454 for details.

Shipping and insurance is $10.00 — UPS within the continental USA. If you are in a hurry, UPS Blue (second day air), APO or FPO is $22.00. Canada, Alaska, Mexico are $30.00 (air). Other foreign is $70.00 (air). California residents add 6% tax. The above are cash prices — VISA and MC add 3% to total. We ship the next business day on money orders, cashiers' checks, and charge cards. A 14-day clearing period is required for checks.

Dealer inquiries invited
For information call 805/987-2454

TO ORDER CALL TOLL FREE
1-(800) 962-5800 USA
1-(800) 962-3800 CALIF. **(8-6 PST)**

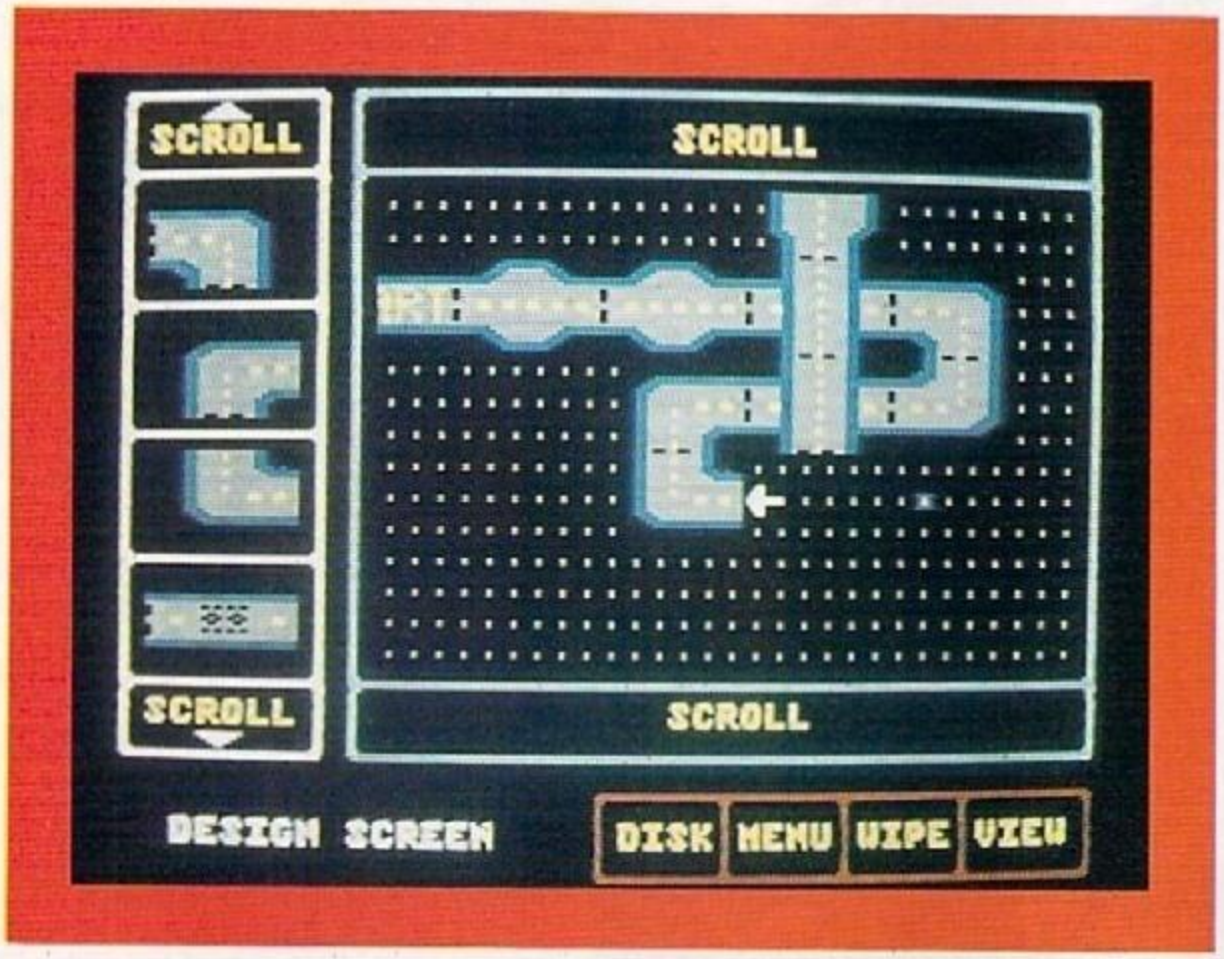
or send order to:

APROTEK
1071-A Avenida Acaso
Camarillo, CA 93010

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Activision's Fast Tracks.

that they can be considered a category unto themselves.

Fast Tracks brings the construction syndrome to slot-car racing and is thus one of the most logical translations from real life to computers. (I mean, really, wouldn't you love to hit a turn at full speed and not have to chase your slot car halfway across the room?)

Fast Tracks first presents you with a selection of such track pieces as straightaways, curves and crossovers. If you can name it, it's probably here. The menu board runs down the left one-third of the screen, and scrolling action allows you to scan the sections until you find the one most likely to do you harm.

Obvious impossibilities, such as constructing 90-degree turns by placing two crossovers at right angles, are disallowed. Those of you who are really hell-bent upon slot-car suicide, take note.

Since you construct tracks that are much larger than the screen, the View option will show you your track in its entirety at any phase of the construction. Other options allow you to stretch a section to make longer straightaways or to erase sections that may seem too tame.

Now you're ready to race. You may choose to race on your track or on one of the six others included on the master disk. Once you've made your selection, you may take an overview of the track to get your bearings.

As in the construction phase, the track is larger than your monitor's screen. A very smooth and quick scrolling action keeps your car in view at all times, while other cars that you have passed (or that have passed you) will disappear now and then as they move to sections outside your view.

As with real slot-car racing, there is no need to steer your car. It does so by itself, leaving observers to believe you have incredible reflexes. Your real control comes in keeping to the center of the track, bumping other cars off the track and slowing down as you come to an oil slick or a particularly bad turn. Really bad turns will send your car skittering off the track (but, thankfully, not across the floor), costing you time.

Beating your own or someone else's time is the challenge. The difference is in hundredths of a second, measured by the real-time clock at the bottom of the screen.

Fast Tracks strives to be different and succeeds. Graphics, animation and sound are great and the play value is high. I recommend it for any age group—especially for those who have worn out the knees of their jeans chasing real slot cars across the carpet.

So, I'll have to say yes, there is room for another computer construction set, as long as the theme is original and as long as the quality of execution remains as high as in Fast Tracks. *(Activision, 2350 Bayshore Frontage Road, Mountain View, CA 94043. C-64/$29.95 disk.)*

Ervin Bobo
St. Peters, MO

Snowdrifts and Sunny Skies

B

Learn How Fronts and Barometric Pressure Affect the Weather

Snowdrifts and Sunny Skies is a charming way to learn about the weather. It is an arcade-style game that scores points based on how well you decipher weather clues to make accurate weather predictions. You use a joystick to dodge people, animals and other creatures as you search for data to guess tomorrow's weather.

You begin by grabbing keys from weather balloons without touching the balloons. You have to avoid dust devils, lightning and snowmen. A collision makes you drop a key. You need keys to gain entrance to rooms that contain essential weather information.

The doors of these rooms face a busy street full of moving objects. Getting through them without falling and losing all your keys is quite a challenge. As you move up the levels of difficulty, the sprite people move more quickly, and the time you're allowed on each screen decreases.

In the main hall, there are four doors that you can enter without a key: Window (today's weather picture); Predict (make your prediction); Exit (from the screen and round of play); and End (stop or restart). All the other doors need a key to be opened and offer such information as today's weather, pressure areas and fronts affecting today's weather, historical weather data for a partic-

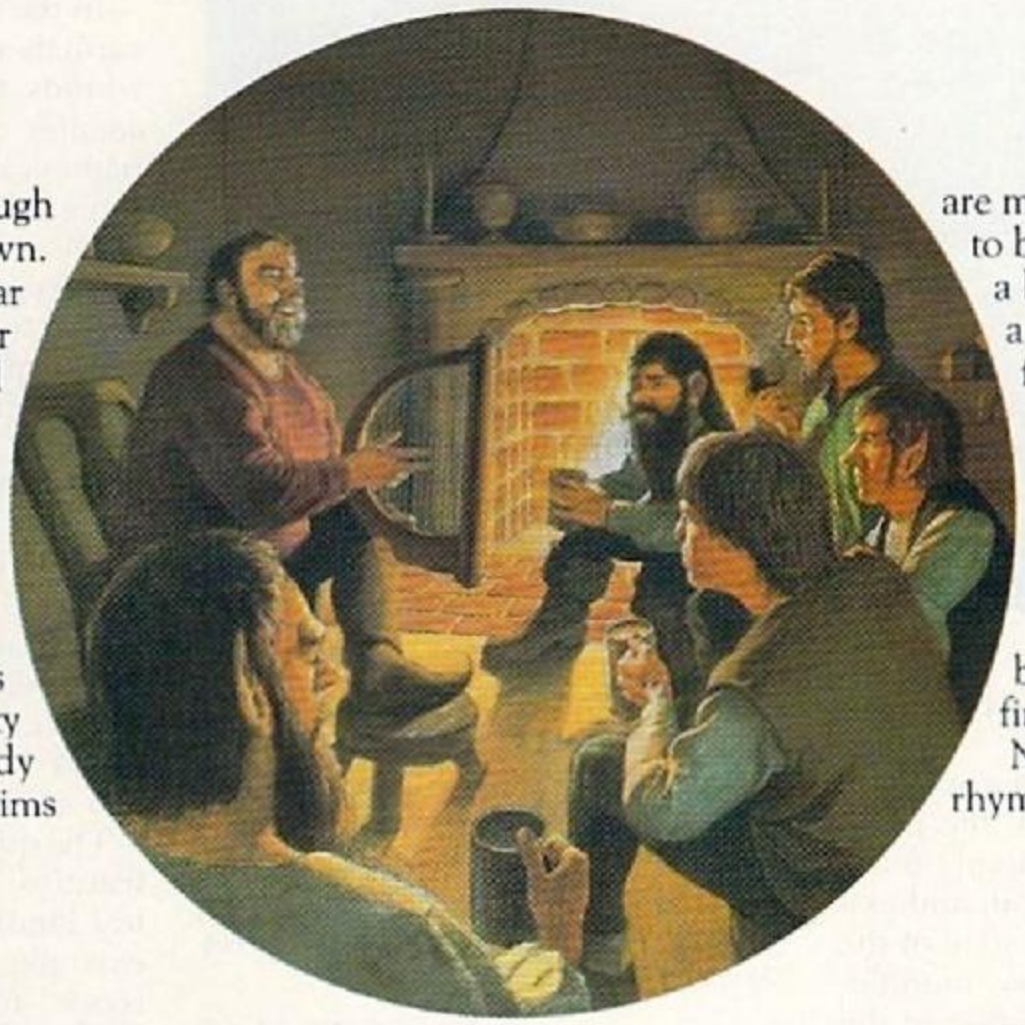
http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 3 on Reader Service card.

(No I.D. required for half-elves.)

When the Going Gets Tough, the Bard Goes Drinking.



And the going is tough in Skara Brae town. The evil wizard Mangar has cast an eternal winter spell. Monsters control the streets and dungeons beneath. Good citizens fear for their lives. What's worse, there's only one tavern left that serves wine.

But the Bard knows no fear. With his trusty harp and a few rowdy minstrel songs he claims are magic, the Bard is ready to boogie. All he needs is a band of loyal followers: a light-fingered rogue to find secret doors, a couple of fighters to bash heads, a conjurer to create weird allies, a magician for magic armor.

Then it's off to combat, as soon as the Bard finishes one more verse. Now what's a word that rhymes with "dead ogre?"

4 classes of magic user, including wizard and sorceror. 85 new magic spells in all.

The Bard's Tale
You are startled by a grim snarl. Before you, you see 1 Red dragon.
Will your stalwart band choose to (F)ight or (R)un?
Red dragon
Character Name AC Hits Cond SpPt Cl
BRIAN THE FIST
EL CID
MARKUS
MERLIN
SIR GRADY
OMAR

128 color monsters, many animated. All challenging.

Full-color scrolling dungeons. 16 levels, each better than the one before. 3-D city, too.

Optional use of characters created in Wizardry® or Ultima III.®

The Bard's Tale™

from

ELECTRONIC ARTS™

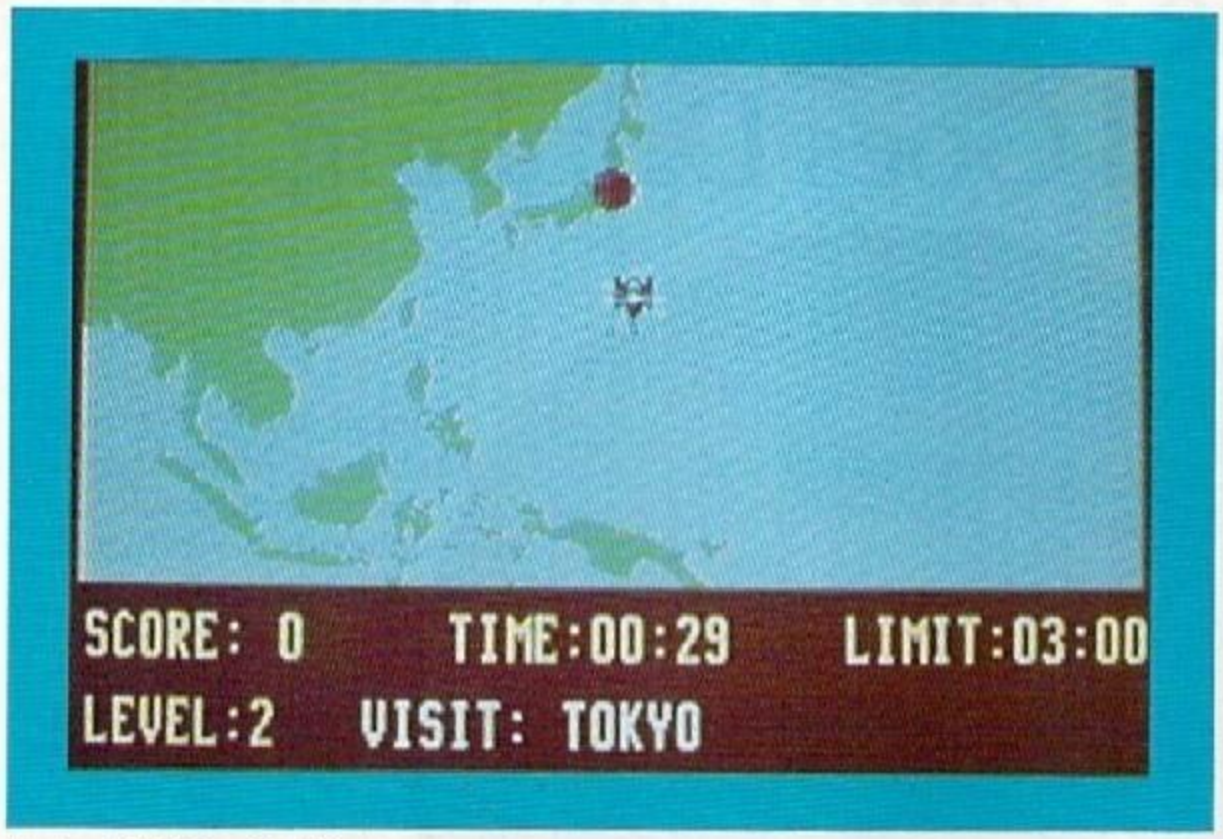
Specs: 100% machine language, 400K worth on 2 disks. 64K RAM minimum; enhanced for 128K. Now available for Apple II family for $44.95, C-64 & 128 for $39.95.
To order: Visit your retailer or call (800) 227-6703 (In Calif. call (800) 632-7979) for VISA or MasterCard orders. To purchase by mail, send check or money order to Electronic Arts, P.O. Box 306, Half Moon Bay, CA 94109. Add $3 for insured shipping and handling. Allow 1-4 weeks for delivery. The Bard's Tale is worth the wait.

Apple is a trademark of Apple Computer. Wizardry is a registered trademark of Sir-Tech Software, Inc. Ultima is a registered trademark of Richard Garriott. The Bard's Tale and Electronic Arts are trademarks of Electronic Arts. For a copy of our complete catalogue and direct order form, send $.50 and a stamped, self-addressed envelope to Electronic Arts, 2755 Campus Drive, San Mateo CA 94403.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Radarsoft's Maps 64 USA.

ular city and month, and weather folklore.

If you lose your keys in a collision before you can gather all the information you need, you simply make the best prediction you can and exit the hall. You predict the state of the weather—hurricane, snow, thunderstorm, rain, clouds or sun—and the temperature highs and lows. You earn points based on how close you come to an actual weather pattern in the city and month you chose.

Snowdrifts and Sunny Skies has several nice features. Your character can be male or female, light or dark colored. When several players compete, the program alternates the player who is first in each round, so position is not an advantage in the 12-round game.

This program is fun simply as a game, although it is not as action-packed as an arcade game. Its slower pace is easier for young children to handle. As educational software, it is effective and well-designed. You can learn a surprising amount about the weather as you play. With nine cities and 12 months to cover, the game has plenty of variety.

The scoring is based on actual weather history. While hurricanes and snow occur more frequently in the game than in nature, you nonetheless learn real relationships between the weather map and barometric pressure and how the weather behaves. These relationships easily transfer to understanding the evening weather report. Snowdrifts and Sunny Skies is a positive educational experience that's well worth buying for children 8 and older. *(Tri Micro, 14072 Stratton Way, Santa Ana, CA 92705. C-64/$14.95 disk.)*

Annette Hinshaw
Tulsa, OK

Maps 64 USA

B

Polish Your Geography Skills as You Explore The United States

Radarsoft's Maps 64 USA is an educational game designed to help you practice your geography skills. You locate American states, capitals, cities and geographical landmarks on accurately drawn high-resolution maps. One map shows the entire United States, and five other maps magnify various regions across the country.

The program gives you several ways to practice your knowledge. A helicopter game allows you to cruise around the country and look for different towns; and a search section lets you select cities for the program to hunt down.

The helicopter game combines the excitement of an arcade game with the repetition necessary to remember place names. You have to locate towns within a given time period. You can choose the skill level and time limit.

In the first level, you look for state capitals and large cities. In the higher rounds, the towns you must find are smaller and less well-known. State names can even be removed from the screen to make the game more challenging. Some cities will repeat during a round; this helps you remember where they are.

The quizzes in the program are like the familiar geography tests you probably had in school. You are shown a state, state capital, city or topographic feature, and you have to identify it. Your answers must be exact, or they'll be counted as wrong. If you answer incorrectly, the program will show you the right answer. At the end of the quiz, you get a score based on the percentage of questions you answered correctly.

The quizzes have a few bothersome features. The names of the geographical landmarks are inconsistent. For example, you must answer "St. Lawrence" for St. Lawrence River, but don't answer "Galveston" for Galveston Bay, or you'll be incorrect. Also, you are not able to set the skill level for these quizzes.

I found the city search quiz a little too difficult for younger children. It includes many small towns along with the large ones, and despite the detailed maps, it is sometimes difficult to distinguish between the towns.

The search section lets you look up the locations of more than 5000 places. My brother (a traveler and map collector) turned this section into a stump-the-software game. We were amazed by all the locations the program has on file. It found over a dozen small communities around Los Angeles alone!

Maps 64 USA, particularly the helicopter segment of the program, will provide you with a fun way to practice your geography skills. The program's flexibility and large library of place names make it ideal for students in grades four and up. Adults will also find Maps 64 USA a unique and challenging game.

Once you have found your way through America, Radarsoft has two

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Fleet System 2.™
Word processing that *spells* V-A-L-U-E.

Complete word processing with built-in 90,000 word spell checking - Only **$79.95**

Up till now, you'd have to spend a minimum of about $70 to get a good word processor for your Commodore 64™/128™. And if you added a small, *separate* spell checking program, you'd be out well over $100!

Now there's Fleet System 2! It's two powerful programs in one, and it's perfect for book reports, term papers or full office use.

Fleet System 2 combines the EASIEST and most POWERFUL word processor available with a lightning-fast 90,000 word spelling dictionary — all in one refreshingly EASY TO USE integrated system. Finally, spell checking is now available at your fingertips.

You can even add over 10,000 "custom" words to the built-in 90,000 word dictionary. And at a suggested retail price of $79.95, Fleet System 2 really spells V-A-L-U-E, and 90,000 other words too!

Fleet System 2 helps people of all ages to learn to *spell correctly* and *write better* too. It's the ONLY full featured word processor that provides you with helpful writing and VOCABULARY FEEDBACK such as: the total number of words in your document, the number of times each word appears, and total number of "unique" words, just to name a few.

Fleet System 2 has every important feature that will help you make child's play out of the most heavy duty typing tasks. There's Built-in 80 Column Display — so what you see is what you get, Horizontal Scrolling During Typing, Easy Correction and Movement of Text, Page Numbering, Centering, Indenting, Headers and Footers, Math Functions, Search and Replace, Mail Merge, BUILT IN 90,000 word SPELL CHECKING and much, much more!

Ask for Fleet System 2. Exceptionally Easy. Packed with Power. Perfectly Priced.

UNITED STATES COMMODORE USERS GROUP APPROVED

PSI Call 1-800-343-4074 for the Dealer nearest you!
Professional Software, Inc., 51 Fremont Street, Needham, MA 02194 (617) 444-5224

Fleet System 2™ is a trademark of Professional Software, Inc. — Fleet System 2™ was designed and written by Visiontronics, Ltd. — Commodore 64™ and Commodore 128™ are trademarks of Commodore Electronics Ltd. — Some printers may not support certain Fleet System 2 functions and/or require an interface. Please check with your dealer. — Dealer and Distributor inquiries are invited.

Circle 93 on Reader Service card.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

other map programs—Maps 64 Europe and Maps 64 World—so you can continue your explorations. *(Radarsoft, 655 John Muir Drive, E411, San Francisco, CA 94132. C-64/$39.50 disk.)*

Matthew Stern
Reseda, CA

Real Estate 64 — C

Here's the Computer Version of a Classic Board Game

Why mess around with a good thing?

There are some things even modern technology can't improve upon. Game lovers—even those who fancy the computer variety—need only try Handic Software's Real Estate 64 to realize it is no substitute for Monopoly, the board game on which it's based. While the program does offer a few interesting variations on the original theme, I don't foresee it turning on gamers the way the Parker Brothers classic has.

If you've ever played the original board game, you know the basic rules and objectives of Handic's computerized version. The idea is to travel around a city, buying up pieces of property and developing them. The winner is the player who bankrupts all of his opponents, or the one who has the most cash and property when everyone decides to end the game.

Handic has adapted that premise for the C-64 program. Push a button and the computer rolls a couple of "video dice" for you, then moves your on-screen car through the streets of the city. Push another button to buy a piece of property. If it's already owned by an opponent, the computer automatically deducts the rent from your account. The computer keeps the players' turns in order.

The computer also keeps track of each player's net worth and possessions. Features of the original game, such as going to jail and drawing Community Chest or Chance cards, are also included in this version.

Pressing a key here and a key there allows you to mortgage a property, list one for auction, build on a property or see how much money and property has been accumulated.

Since Real Estate 64 is played using a computer, it offers some features the original board game does not. For example, you can instantly find out what you're worth and don't have to worry about being short-changed when making a transaction.

Another interesting feature is that you can play solitaire against as many as three computerized foes. (The game can be played by up to four human or computer players in any combination.)

An option that may appeal to some gamers is the opportunity to play Real Estate 64 in one of five languages (English, Swedish, Finnish, German or French). Instructions and property names appear in the language of your choice, except when there is a glitch in the program. In the English version, for example, a few property names appear in German.

By far the most intriguing option is the one that allows you to play your game on the streets of Stockholm, London, Atlantic City, Paris, Rome, Amsterdam, Helsinki or any other city you select. That's right, there's a provision that lets you create your own city with your choice of two utilities, four railroads and 22 streets. You can even save it for future games!

Unfortunately, computerization of this game brings with it some insurmountable problems. One is that everything operates from the C-64's keyboard. It's downright annoying having to switch places with the other players on every turn. Also, since all financial data appears on the screen, it's not possible to use old Monopoly ploys such as secretly amassing a fortune before moving in for the kill.

But perhaps Real Estate 64's biggest disadvantage in comparison to the board game is an aesthetic one. Monopoly is about capitalism and materialism, and those concepts manifest themselves in one's possessions.

In other words, having piles of money—even if it's play money—and a stack of property cards in your hands is at least half the fun of Monopoly. Real Estate 64 deprives you of the joy of flaunting a pile of deeds or fanning a thick wad of bills in an opponent's face.

If those things don't mean anything to you, or if you've never played the real thing (is there anyone who hasn't?), you may find playing Real Estate 64 richly rewarding. But if you're a materialistic, money-hungry slumlord at heart—as I am when it comes to Monopoly—then this game will probably leave your coffers empty. *(Handic Software, 400 Patterson Plank Road, Carlstadt, NJ 07072. C-64/$39.95 disk.)*

Scott Wasser
Wilkes-Barre, PA

The Whole Bit — B

This Simple Yet Powerful Word Processor Offers a Lot Of Value for Your Money

The first thing you'll notice about The Whole Bit is that its plain plastic package contains no user's manual. Don't let that put you off. This newly released version of a long-overlooked word processor from Applied Technologies is part of a new approach to software marketing. Eliminating the manual has allowed the company to bring this software onto the market at a price reduction of almost 40 percent.

At first encounter, the program appears to be just another menu-driven word processor designed for ease of use.

If you're anxious to start writing immediately, you can jump right into this program. Even without instructions, The Whole Bit is very simple to use. In fact, it almost doesn't need a manual. You can enter, edit and print out text simply by relying on the easy-to-follow menus and four help screens. The program's default settings and simple commands allow short letters or notes to be composed and printed almost immediately.

If you find you do need the manual, you must simply put your new word processor to work printing the 36 pages of documentation that are included on the program disk. (Instructions for printing the manual are provided in a tiny six-page booklet that comes with the program.)

The Whole Bit's capabilities make it useful for small-business as well as home applications. It allows you to

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

VISA MasterCard

■ YOUR ORDER ON IN STOCK ITEMS IS SHIPPED UPS GROUND
NEXT BUSINESS DAY — 2ND DAY AND NEXT DAY AIR AVAILABLE
■ OPEN 9-8 MON-FRI; 10-5 SAT. EAST COAST TIME
■ IF BY SOME OVERSIGHT WE DON'T HAVE THE LOWEST PRICE... GIVE US A CHANCE TO BEAT IT

...eader Service card.

LOW PRICES + FAST DELIVERY = 1-800-468-9044

ORDERS ONLY ... CALL TOLL FREE
INFORMATION & PA ORDERS 814-234-2236

★ EPSON ★ STAR ★ JUKI ★ LEGEND ★ COMMODORE ★

LX-80	$214.95
LX-80 tractorfeed	$ 34.95
Homewriter 10	$246.95
includes Commodore or Atari interface	
FX-85	$314.95
FX-185	$444.00
HS80	$299.00

PRINTER INTERFACES

Cardco Super G	$CALL
Cardco G Wiz	$CALL
Tymac Connection	$67.95
MW-350	$CALL
MW-350 w/buffer	$CALL
Grapler CD	$87.95

DATA 20 XL-80

The XL-80 is an 80 column board that plugs into the back of your C-64. It's **compatible with the Mitey Mo** modem software to give you an 80 column terminal on your C-64. Included with the XL-80 is an 80 column word processor, spreadsheet, and mailing list program.

XL-80 $79.95

XL-80 & MITEY MO Package Deal $127.95

LEGEND PRINTERS

808	$159
880	$CALL
1080	$219
1380	$259
1385	$295

JUKI

PRINTER/TYPEWRITER

2200 $264

PRINTERS

5510P	$329
600P	$169
6100P	$344
6100S	$389

Xetec inc.

SUPER GRAPHIX interface w/8K buffer, down loadable fonts ..... $ lowest price

SUPERGRAPHIX jr printer interface.. $46.95

FONT MASTER.. $24.95

PANASONIC

1091 . . $229.00
1092 ..... $309.00
1093 ..... $CALL

LETTER QUALITY PRINTERS when near letter quality isn't good enough

Cardco LQI	$199
Epson DX-10	$209
Epson DX-20	$309
Star Powertype	$299

MIRAGE CONCEPTS

Database Manager with Report Generator	$36.99
Prof. Wordprocessor	$36.99
Database Manager, Prof. WP Package	$67.95

The Print Shop

Broderbund Print Shop	$25.95
Graphics Library I or II	$16.95
120 sheet color paper refill ⅓ red, ⅓ blue, ⅓ gold	$8.95

ENHANCER 2000 DISK DRIVE

$159
ONE YEAR WARRANTY

PRO-LINE SOFTWARE

GT 4, fast load/fast save/disk basic cartridge for C-64	$29.95
C POWER	
C COMPILER	$69.99
CADPIC	$36.95
CASHBOX	$36.95
Wordpro 64	$36.95
Spellpro 64	$32.95
Mailpro 64	$24.95
Profile 64	$36.95
PAL 64	$32.95
POWER 64	$32.95
TOOLBOX 64	$69.95

MODEMS — MODEMS — MODEMS

TOTAL TELEMODEM	$29.95
MASTER MODEM	$39.95
includes Compuserve, Dow Jones time	
VOLKS 6470 1200/300 baud	$159.00
1660	$CALL
WESTRIDGE AUTO	$59.95
MITEY MO	$59.95
VIP TERMINAL	$29.95
VIDTEX TERMINAL	$23.95
COMPUSERVE STARTER KIT	$19.95

MONTHLY SPECIALS UNTIL March 31, 86

Epyx Multiplan 128	$37.95
Enhancer 2000	$159.00
Volks 6470 Modem	$159.00
Newsroom	$CALL

TUSSEY BRAND DISKETTES

We've introduced our own brand of diskettes, and guaranteed them for life!!! Included is tyvek sleeve, hub ring, and write protect tags.

	Qty. 10	Qty. 20	Qty. 50
TUSSEY BRAND SS DD	.99	.97	.89
TUSSEY BRAND DS DD	1.14	1.11	1.05
MAXELL SS DD	1.29	1.25	1.19
MAXELL DS DD	1.49	1.44	1.39
NASHUA SS DD	.99	.95	.89
NASHUA DS DD	1.19	1.15	1.09
BONUS SS DD	.99	.95	.89
BONUS DS DD	1.19	1.15	1.09
CENTECH COLORED SS DD (SAME AS BONUS)			
CENTECH COLORED DS DD (SAME AS BONUS)			

Prices are per disc

Cardco LQI BLOWOUT

$199
LIMITED QTYS
Daisywheel Printer with Centronics and Commodore Interface

cardco, inc.

COMMODORE 128= HARDWARE

C128
1571, 1572 DRIVES
1902 MONITOR
MPS 1000 PRINTER
1350 MOUSE
1700, 1750 RAM EXPANSION

CALL NOW FOR LOWEST PRICES

SAVE A BUNDLE ON A BUNDLE
PACKAGE DEALS AVAILABLE
CALL FOR DETAILS

Call for Price on C64
1541...$CALL, 1802...$CALL, MPS-801...$106.95

COMMODORE 128= SOFTWARE

JANE	$32.95	Wordwriter 128	$CALL
WORDPRO 128	$CALL	CMS 128 Acct.	$CALL
Perfect Calc	$42.95	Multiplan 128	$37.95
Perfect Writer	$CALL	Basic Program Toolkit From Epyx	$CALL
Perfect Filer	$CALL	Consultant 128	$39.95
Vizastar 128	$CALL	Paperclip 128	$39.95
Vizawrite	$CALL	P-clip 128 w/ Spellpack	$CALL
Swiftcalc 128 w sideways	$54.95		

SG-10	$CALL
SG-10C Commodore ready	$226
SG-15	$364
SD-10	$323
SD-15	$449
POWERTYPE 18cps daisywheel	$299
SR-10, SR-15	$CALL

star MICRONICS INC.

PRINTER PACKAGE MANIA!
all packages work with C64 or C128

star SG-10 & XETEC SUPERGRAPHIX $274.95

SG-10 & Xetec Supergraphix jr	$254.95
SG-10 & Cardco G-Wiz	$259.95
SG-10 & MW-350	$269.95
SG-15 & Xetec Supergraphix	$419.95
SG-15 & Cardco G-Wiz	$412.95
SD-10 & Xetec Supergraphix	$384.95

PANASONIC

1091 & Xetec Supergraphix	$289.95
1091 & Cardco G-Wiz	$279.95
LX-80 & Xetec Supergraphix	$269.95
LX-80 & Cardco G-Wiz	$264.95
FX-85 & Xetec Supergraphix	$379.95
FX-185 & Xetec Supergraphix	$509.95

- Purchase orders accepted from qualified corporations and educational institutions
- We accept Mastercard, Visa, COD, and Mail Orders
- No Sales Tax on Orders outside PA
- Buy with confidence. We honor manufacturer's warranty.

TOP 10 GAMES

Hitchhikers	$22.95
Microleague Baseball	$27.95
Kareteka	$19.95
Kung Fu (Spinnaker)	$CALL
F-15 Strike Eagle	$21.95
Flight Simulator II	$32.95
FSII Scenery (d)	$CALL
Hobbit	$CALL
Murder By The Dozen	$24.95
Sargon III	$37.95
INFOCOM	
Hitchhikers Guide	$22.95
Deadline	$25.95
Enchanter	$25.95
Infidel	$29.95
Sorcerer	$29.95
Witness	$25.95
BLUE CHIP	
Baron	$24.95
Millionaire	$24.95
Tycoon	$24.95
WORD PROCESSORS	
Wordpro 64 (d)	$36.95
Fleet System II (d)	$CALL
Paperclip (d)	$47.95
Paperclip w/Spellpack (d)	$59.95
Cardco Write Now/64 (c)	$37.00
Omni/Writer/Speller (d)	$39.95
Mirage Professional W.P. (d)	$36.95
Xetec Font Master (d)	$24.95
Trio (d)	$CALL
Mirage Personal W.P.	$ 9.95
DATABASES	
Consultant (d)	$49.95
Mirage Database w/Rpt Gen (d)	$36.95
Superbase 64 (d)	$44.95
Practifile (d)	$12.95
RGBI/Composite Monitors	
Technica MJ-22	$269.00
Panasonic 1300	$CALL
RGBi Cable	$19.95
Composite Video Cable	$ 6.95
MONITORS	
SAKATA SC100 13" COLOR	$149.00
Zenith 12" Amber 122	$ 77.95
Zenith 12" Green 123	$ 77.95
NEC 12" Green	$ 69.95
Cable for monitors	$ 6.95
SPREADSHEETS	
Vizastar 64	$79.95
Vizastar (d,c)	$86.95
Practicalc (d) or (t)	$12.95
Calkit	$39.95
Programmable Spreadsheet	$19.95
Calc Result Adv. (d,c)	$67.00
EZ Calc	$19.95
Cardco Calc Now/64	$31.95
Calc Result Adv.	$67.00
BI HARDWARE	
Bi-80	$106.95
Buscard II	$CALL
CARDCO	
Graph Now	$29.95
Numeric Keypad	$35.00
5 slot expansion CB/5	$58.00
Mail Now 64 (d)	$31.95
Spell Now (d)	$31.95
UTILITIES	
CSM 1541 Align (d)	$29.95
Simon's Basic	$29.95
Canada A/M (d)	$39.95
Merlin 64 (d)	$33.95
INTEGRATED SOFTWARE	
Trio (d)	$CALL
Homepak (d)	$39.99
Vizastar	$79.95
MISCELLANEOUS	
Koalapad w/Painter	$59.95
Koala Printer (d)	$CALL
Kid Pro Quo (d) (d)	$27.99
Softsync Personal Acct. (d)	$32.95
FCM (d)	$19.95
Cont. Home Acct. (d)	$46.95
Complete Personal Acct. (d)	$54.00
64 Doctor (d)	$24.95
Timeworks Inventory, A/P, A/R, C/F, General Ledger, Payroll (d)	$40.95 ea
PC Pal Printer Stand	$19.95
1541 Express	$CALL
Fast Cable	$CALL
Epyx Fast Load	$24.95
Broderbund Print Shop (d)	$25.95
Graphics Library I (d)	$16.95
Naverone 3-slot cartridge expander	$27.95
Musicalc	$CALL

To order by mail: We accept money order, certified check, personal check. Allow 2 weeks for personal check to clear.
Shipping: $2.50 for software and accessories/$10.00 for printers and color monitors/$8.00 for disk drives and other monitors/Add $3.00 per box shipped COD. Call for other shipping charges. Additional shipping required on APO, FPO, AK, HI, and foreign orders.

Terms: ALL PRICES REFLECT CASH DISCOUNT, ADD 3% FOR MASTERCARD OR VISA. Manufacturer's warranty honored with copy of our invoice. **ALL SALES ARE FINAL.** Defective items replaced or repaired at our discretion. Pennsylvania residents add 6% sales tax. Prices and terms subject to change without notice.

tcp TUSSEY COMPUTER PRODUCTS

P.O. BOX 1006
STATE COLLEGE, PA 16804

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

chain files without embedding special instructions at the end of each file, insert non-printing remarks within the text, create indented paragraphs and automatically align columns. The last two features are almost mandatory for creating reports or lists of numbers. A small but useful convenience is the ability to assign one or two frequently needed words or phrases to individual function keys.

The Whole Bit supports most of the popular printers and can be programmed with custom commands and initialization routines. Commands to call such printer options as subscripts and enhanced fonts are logical and easy to remember. The same command is used both to begin and terminate an option, cutting in half the number of commands you have to remember. The program also offers the welcome feature that allows you to print or preview any portion of the text held in the 20K RAM buffer.

While printer commands and remarks are embedded within your text, format instructions, such as margins, tabs, headers, footers and page numbering, are not. You enter these via the Print Options menu, and they need not be saved as part of the text file. This allows you a good deal of flexibility in recalling files for use in other documentation.

When text is written to a disk file, you have the option to save it with or without special format instructions. Files that include these instructions are designated master files, and a special symbol identifies them in the disk directory. (Unfortunately, there is no way of easily determining what special instructions are stored with a document.)

The black and gray display screen has a somewhat unusual appearance. Blank and forced spaces are displayed with a horizontal line between words or to the edge of the screen. Once you become used to these lines, the screen display seems logical and easy to use.

Text would be easier to proofread, however, if word wrap were built into the program. I also missed being able to switch from single to double spacing within a document. Instead of embedding a command within the text to set spacing, you must change a value in the Print Options menu.

Text is stored on your disk as a program file. While this is not uncommon, The Whole Bit also allows you to load any program file that is on the disk. This can lead to trouble, as accidentally loading a non-text file can crash the program.

Previewing the formatted output on an 80-column screen is accomplished with a slick scrolling system that even allows you to return to the top of a page that has already scrolled off of your 40-column screen.

Overall, this is an excellent word processor. Don't let the low price fool you. The Whole Bit is a high-powered package that's easy to begin using and hard to outgrow. *(Applied Technologies, Lyndon Way, Kittery, ME 03904. C-64/$24.95 disk.)*

John Premack
Lexington, MA

The Halley Project

Journey to Distant Planets, Orbiting Satellites and Your Local Library

Subtitled, "A Mission In Our Solar System," The Halley Project is actually ten missions that will take you to the outer reaches of our solar system and back. As you successfully complete each mission, you are advanced from an unranked pilot up to the level of Starbird. Only then do you receive your secret code number and become eligible to participate in the ultimate mission—The Halley Project.

You begin each mission by reading your flight instructions and blasting off from a secret installation on the comet Halley. Using the stars as your guide, you must pilot your spaceship to distant locations within the solar system. Sometimes your destination will be a specified, although little-known, moon, while other missions will send you to "any outer planet," or "a planet warmer than Earth."

Unless you are already an astronomy buff or don't mind spending hours cruising the solar system for a heavenly body that happens to fit the description, this is where you will have to do a little outside research. Fortunately, the program's "top secret" dossier, which also serves as your technical reference guide, includes several excellent sources of information on the solar system.

Once you determine exactly where a particular moon or planet is located, you will need your radar, star map and keen scrutiny through the ship's viewing screen to plot a course to your destination. The radar displays the location of the sun and all nine planets in relation to your ship, as well as the 12 constellations that are listed around the radar screen. By zooming in until the appropriate planet appears on the edge of the radar screen, you'll learn which direction to fly and your approximate distance from the planet.

Though the names of the 12 constellations will sound familiar to anyone who's ever read a horoscope, you'll probably have to check the star map to see exactly what the constellation looks like.

Perhaps even more difficult than finding a specific moon or planet is landing on its surface once you arrive. To land, you must pass within 100,000 kilometers of the surface while flying over an unmarked landing site. Like real planets, the celestial orbs in The Halley Project have both a light and dark side and are in constant motion, making a successful voyage and landing somewhat like hitting a moving target that's occasionally invisible.

Although both planets and moons are simply drawn as solid-colored spheres, the view from space is often surprisingly realistic. Against a backdrop of stars, planets smoothly evolve from tiny dots to huge globes, and individual moons slowly swing into view.

It is this beauty and realism that make all the research necessary to complete Halley's missions seem worthwhile. The Halley Project is an enjoyable tour of the solar system and the kind of software that could spark an interest in astronomy that will linger long after you've completed all ten missions. *(Mindscape, 3444 Dundee Road, Northbrook, IL 60062. C-64/$39.95 disk.)*

Bob Guerra
Charlestown, MA

http://www.oldgamesitalia.net/

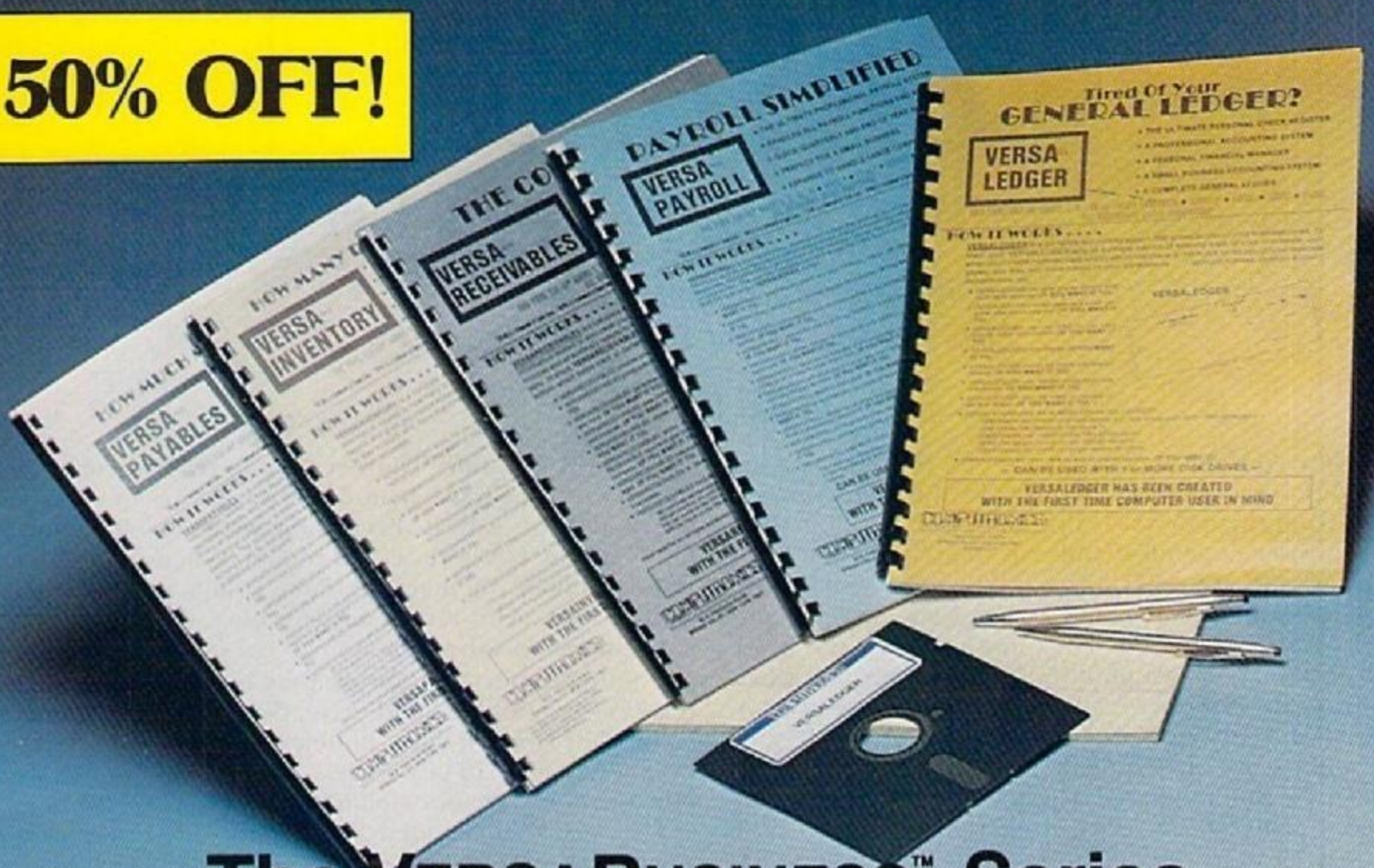
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Introducing the Most Powerful Business Software Ever!

FOR YOUR IBM • APPLE • MAC • TRS-80 • KAYPRO • COMMODORE • MSDOS OR CP/M COMPUTER*

50% OFF!



The VERSABUSINESS™ Series

Each VERSABUSINESS module can be purchased and used independently, or can be linked in any combination to form a complete, coordinated business system.

VERSARECEIVABLES™ $99.95

VERSARECEIVABLES™ is a complete menu-driven accounts receivable, invoicing, and monthly statement-generating system. It keeps track of all information related to who owes you or your company money, and can provide automatic billing for past due accounts. VERSARECEIVABLES™ prints all necessary statements, invoices, and summary reports and can be linked with VERSALEDGER II™ and VERSAINVENTORY™.

VERSAPAYABLES™ $99.95

VERSAPAYABLES™ is designed to keep track of current and aged payables, keeping you in touch with all information regarding how much money your company owes, and to whom. VERSAPAYABLES™ maintains a complete record on each vendor, prints checks, check registers, vouchers, transaction reports, aged payables reports, vendor reports, and more. With VERSAPAYABLES™, you can even let your computer automatically select which vouchers are to be paid.

VERSAPAYROLL™ $99.95

VERSAPAYROLL™ is a powerful and sophisticated, but easy to use payroll system that keeps track of all government-required payroll information. Complete employee records are maintained, and all necessary payroll calculations are performed automatically, with totals displayed on screen for operator approval. A payroll can be run totally, automatically, or the operator can intervene to prevent a check from being printed, or to alter information on it. If desired, totals may be posted to the VERSALEDGER II™ system.

VERSAINVENTORY™ $99.95

VERSAINVENTORY™ is a complete inventory control system that gives you instant access to data on any item. VERSAINVENTORY™ keeps track of all information related to what items are in stock, out of stock, on backorder, etc., stores sales and pricing data, alerts you when an item falls below a preset reorder point, and allows you to enter and print invoices directly or to link with the VERSARECEIVABLES™ system. VERSAINVENTORY™ prints all needed inventory listings, reports of items below reorder point, inventory value reports, period and year-to-date sales reports, price lists, inventory checklists, etc.

VERSALEDGER II™ $149.95

VERSALEDGER II™ is a complete accounting system that grows as your business grows. VERSALEDGER II™ can be used as a simple personal checkbook register, expanded to a small business bookkeeping system or developed into a large corporate general ledger system **without any additional software.**

- VERSALEDGER II™ gives you almost unlimited storage capacity (300 to 10,000 entries per month, depending on the system),
- stores all check and general ledger information forever,
- prints tractor-feed checks,
- handles multiple checkbooks and general ledgers,
- prints 17 customized accounting reports including check registers, balance sheets, income statements, transaction reports, account listings, etc.

VERSALEDGER II™ comes with a professionally-written 160 page manual designed for first-time users. The VERSALEDGER II™ manual will help you become quickly familiar with VERSALEDGER II™, using complete sample data files supplied on diskette and more than 50 pages of sample printouts.

FOR COMMODORE OWNERS ONLY!

Commodore owners *only* may now take 50% off our listed price of any module(s) from our VersaBusiness Series. All sales are final (our normal 30-day money back guarantee does not apply to sale items).

To Order:
Write or call Toll-free (800) 431-2818
(N.Y.S. residents call 914-425-1535)

- add $3 for shipping in UPS areas
- add $4 for C.O.D. or non-UPS areas
- add $5 to CANADA or MEXICO
- add proper postage elsewhere

DEALER INQUIRIES WELCOME

All prices and specifications subject to change / Delivery subject to availability.

COMPUTRONICS INC

50 N. PASCACK ROAD, SPRING VALLEY, N.Y. 10977

Circle 9 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Commodore's New Disk Drive

Meet the 1571. C-128 owners will find that Commodore's new disk drive offers some vast improvements—especially in speed and capacity—over the 1541. Here's an overview of what you can expect.

By JIM BORDEN

If you're considering buying a C-128, or simply buying a new disk drive for your Commodore, just what can you expect from the new 1571 disk drive?

The answer depends mainly on what computer you'll be using with the 1571 drive. With any Commodore computer, you'll immediately notice how much quieter this drive is. Gone is the solid stop to locate the head. It's been replaced by a photocell. This means that when copy-protected software is loaded, you won't have to listen to the head banging into the stop and worry that your drive will go out of alignment.

The drive's motor starts each time a disk is inserted or removed. (This takes a little getting used to.) The purpose of this is to allow the disk to better center itself as the drive shaft is moved into the center hole. The result is less wear and tear on the center hole and longer disk life. Another possible result is more reliable disk read/write operations. If the center hole were to become slightly elongated, you might begin to experience problems with the disk.

It is safe to remove the disk any time the *green* light is off, even if the motor is running. And no, I don't know why Commodore decided to change the color of the power and busy lights. Red is now the power light and green is the busy light.

Another nice feature is the DIP switch that's located on the back of the 1571; it allows you to set the drive's device number from 8 to 11. This is far better than changing the device number via software, which lasts only until the drive is turned off, or via hardware, which involved cutting the pad in the 1541.

Some Improvements

Unless you'll be using a C-128, those are the only changes you can expect from the 1571. If you have, or plan to buy, a C-128, however, you'll find the 1571 to be a great improvement over the 1541.

The major improvement involves speed. Table 1 compares the time required for various operations on the 1541 with a C-64, and the 1571 with a C-128 in C-128 mode. (The C-64/1571 combination performed nearly the same as the 1541.) These times were found using a 54-block Basic program. The last column (1541 format) surprised me. This was a load or verify of a program saved by a C-64 with a 1541. Even these programs load much faster on the C-128 (in C-128 mode). When the C-128 is in C-64 mode, you'll get the same results as if you were using a 1541. (This is necessary for the C-64 mode to load copy-protected software.)

Another important improvement in C-128 mode is that the 1571 is a double-sided drive. For this reason, I advise using only good quality double-sided disks. A double-sided disk has 1328 blocks free—do you want to risk that much data to save one dollar per disk?

The terms single-sided and double-sided may cause some confusion. A true double-sided drive (such as the 1571) has two heads to allow reading/writing on both sides of the disk without flipping it. The 1541 is a single-sided drive, since it can only write to one side of a disk. If you do use the other side of a disk by flipping it, you should be very careful with the 1571. Although it cannot read the flip side, it will, when in C-128 mode, format both sides of *any* disk. For this reason, you might want to copy any data on the flip side of your disks onto double-sided 1571 disks. Then store the original disk as a backup. (You cannot read the second side of a 1571 disk with a 1541 or a C-64.)

The 1571 User's Guide

The *Commodore 1571 Disk Drive User's Guide* is an improvement over the 1541's manual. It is well organized and in a logical order. You are told how (and why) to format a disk as soon as you've connected the drive to your computer.

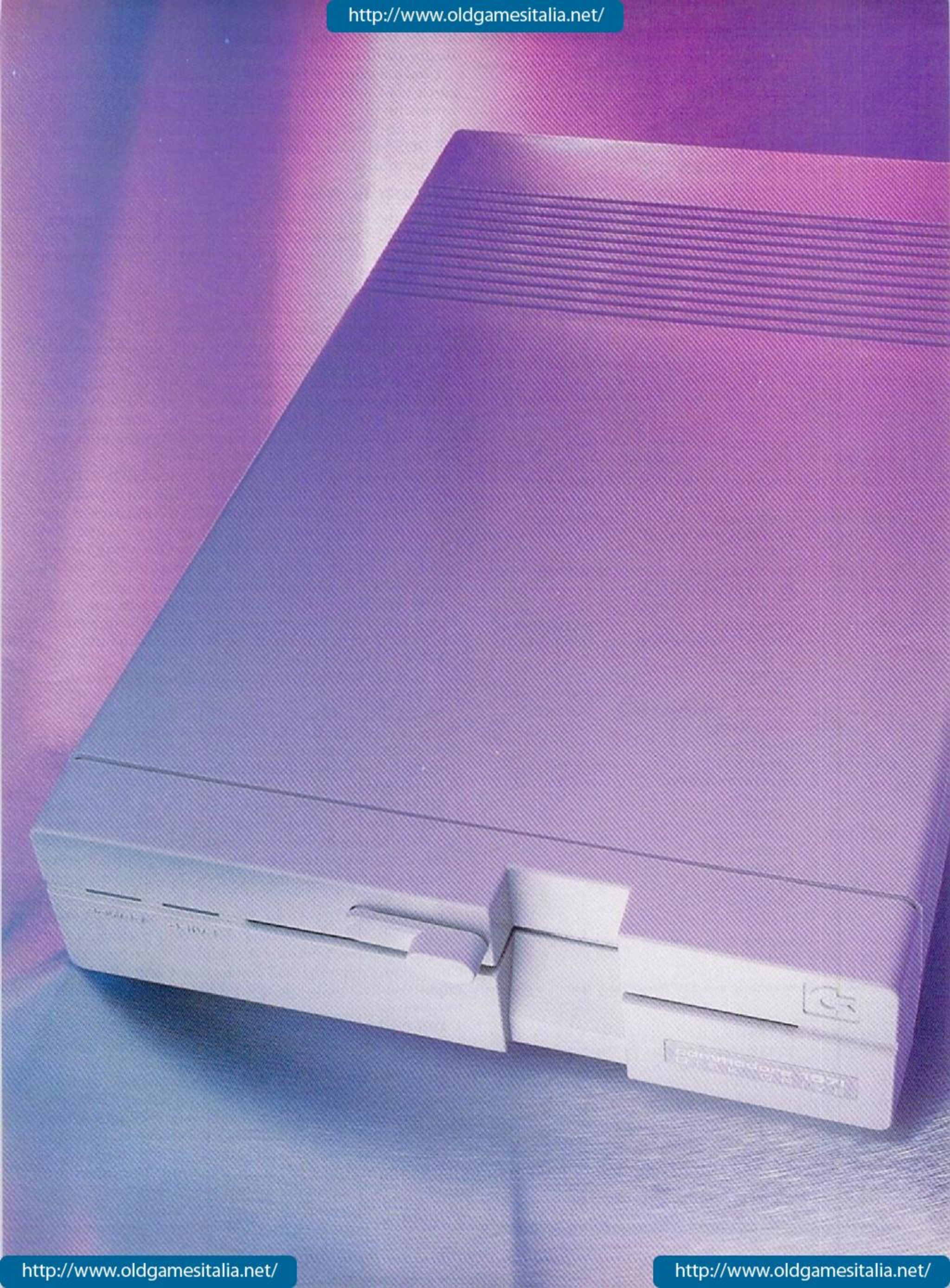
There are, however, two additions I'd like to see to the manual. First, an index would be handy, especially for the beginner.

The second oversight by Commodore is the lack of reference to the C-64 Wedge. Maybe Commodore doesn't expect you to use Basic 2.0 for disk commands. The only useful reference made to the wedge is in the "How to Use" file on the demo disk. This file only explains how to read the directory and how to load a program, and even these aren't covered very well. In case you're working

Photograph by Ed Judice

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Command	1541/C-64	1571/C-128	1541 Format
Save	41 sec.	33 sec.	(n/a)
Load	37 sec.	4.5 sec.	8.5 sec.
Verify	37 sec.	4.5 sec.	8.5 sec.

Table 1. *Comparisons of time requirements for various operations on the C-64 with the 1541 and on the C-128 with the 1571.*

COMMAND	WITH BASIC	WITH DOS WEDGE
LOAD (Basic Programs)	LOAD"PROG. NAME",8	/PROG. NAME
LOAD (ML Programs)	LOAD"PROG. NAME",8,1	%PROG. NAME
LOAD & RUN (Basic)	LOAD"PROG. NAME",8 RUN	↑PROG. NAME

NOTE: The above commands can be used with the directory by listing the directory (@$) and typing the correct character in the first column (over the blocks number). You do not have to delete any of the quotes, etc. Just hit the return key after typing the proper character.

SAVE	SAVE"PROG. NAME",8	←PROG. NAME
REPLACE	SAVE"@0:PROG. NAME",8	←@0:PROG. NAME
VERIFY	VERIFY"PROG. NAME",8	VERIFY"PROG. NAME",8
FORMAT (new)	OPEN15,8,15 PRINT#15,"N0:NAME,ID" CLOSE15	@N0:NAME,ID
FORMAT (Clear Dir)	OPEN15,8,15 PRINT#15,"N0:NAME" CLOSE15	@N0:NAME
RENAME	OPEN#15,8,15 PRINT#15,"R0:NEWNAME=OLDNAME" CLOSE15	@R:NEWNAME=OLDNAME
COPY (On same disk)	OPEN#15,8,15 PRINT#15,"C0:NEWNAME=OLDNAME" CLOSE15	@C:NEWNAME=OLDNAME
SCRATCH	OPEN15,8,15 PRINT#15,"S0:PROG. NAME" CLOSE15	@S0:PROG. NAME
INITIALIZE	OPEN15,8,15 PRINT#15,"I" CLOSE15	@I
VALIDATE	OPEN15,8,15 PRINT#15,"V" CLOSE15	@V
READ DIRECTORY	LOAD"$",8 LIST	@$

Note: You may tap the space bar to stop the listing. Tap it again to continue (or hit the stop key).

READ ERROR CHANNEL	10 OPEN15,8,15 20 INPUT#15,A,B$,C,D 30 PRINTA;B$;C;D 40 CLOSE15	@ @#9 (for drive #9)

CHANGE DEFAULT DRIVE FOR WEDGE.

NOTE: You can use a DOS Wedge command within a Basic program by typing the '@' and enclosing the command within quotes. Example: 10 @"I0:":REM INITIALIZE DRIVE

Table 2. *64 mode DOS Wedge commands.*

in C-64 mode, Table 2 is included to show you the DOS Wedge commands.

I have a copy of DOS 5.1 on each of my C-64 disks, and I load it as soon as I turn on my C-64. I still won't work without it when I'm in C-64 mode! Although DOS 5.1 is a machine language program, it can be copied using the DOS SHELL or SD.COPY.C64, both of which are on the demo disk.

The 1571 Test/Demo Disk

Since the 1571 is compatible with so many Commodore computers, some programs on the disk have several versions. The first two files ("HOW TO USE") explain what the programs on the disk can do.

Some of the programs are very useful, while others do nothing that one or two Basic commands couldn't do. Here are brief explanations of the demo disk programs.

DOS SHELL (C-128 only)—This is a large program that contains ten subprograms. Several of these seem a little silly, such as Run a Program, Format a Disk, Clean Up a Disk and Rename Files, and can be replaced with single Basic 7.0 or DOS Wedge commands. The other programs (Copy a Disk, Copy Files, Delete Files, Restore Files and Reorder Directory) can be quite useful.

The manual suggests that you always load DOS SHELL, but I don't bother unless I want to use a subprogram from the second group. To load DOS SHELL, insert the disk in your drive (with the drive's power on), reset the C-128 and the program will autoboot. One thing I don't care for in this program is that the space bar is used to enter your selection; the return key is much more familiar.

C-64 WEDGE (C-64)—This program loads the DOS Wedge (DOS 5.1) into memory for easy disk commands. See Table 2 for a full list of the Wedge commands.

VIC-20 WEDGE (VIC-20)—This is a scaled-down version of the C-64 Wedge (a result of the unexpanded VIC's 3.5K of RAM).

SD.BACKUP.##—A single drive backup program. There is a version for the C-16, Plus/4 and C-64. Use the DOS SHELL program for the C-128. Always put a cover over the write-protect notch of your source disk for any copy program!

SD.COPY.C64 (C-64)—Copy a file or a list of files using a single drive. If you only want to copy one or two files, know the names before you run this program. To create a list, you must go through the directory and find every filename that matches the name (with wild-card characters) you entered.

PRINT.##.UTIL—Three versions are again included, for the C-16, Plus/4 and C-64. These will perform a text screen dump to a Commodore printer. If you have a non-Commodore printer that emulates a Commodore, you might also be able to use this program. Try your printer to be sure.

DIR PRINT (all)—This is a program to print directories of disks. It would not print anything on my Star Gemini 10X printer.

DIR SQUEEZE (all)—This program will remove scratched filenames from the disk directory and will then close up any blank spaces left by the scratched files. There is also an option to alphabetize the directory.

DISK-DUMP (all)—If you've ever wanted to look at a file byte by byte, this program is for you. The values are displayed in hex, but the addresses are in decimal. I feel that all hex would have been easier to work with, but that could be because I'm a machine language programmer.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 4 on Reader Service card.

BECOME A PUBLISHED AUTHOR IN 6 EASY STEPS WITH THE PLAYWRITER™ SERIES

Select Your Topic

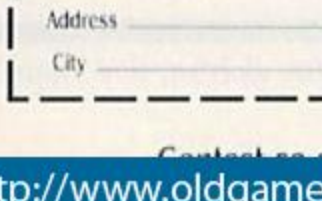
Choose from 4 PlayWriter titles: Tales of Me, Adventures in Space, Mystery!, Castles & Creatures. Each turns your computer into a creative writing assistant who asks you questions and offers suggestions. In this way PlayWriter walks you step by step through the entire story writing process.

Write 1-1000 Different Stories

Create your own unique tales of intrigue and adventure with the guidance of PlayWriter's computer-assisted writing software. Remember, YOU'RE IN THE AUTHOR'S SHOES, and you can use PlayWriter again and again to write hundreds of different stories that will be yours and yours alone.

Edit With Built-In Word Processor

Read your "first draft" on the screen and then use PlayWriter's edit option to make changes and corrections. You can make simple changes – such as spelling or grammatical corrections – or even do major revisions. You can revise and rewrite any parts of the story you'd like.



Print Your Stories

Print your stories onto any standard computer paper. PlayWriter will automatically organize your story like a regular book. It will print title and dedication pages, set the margins, number the pages, leave spaces for illustrations, and even print out a page all about the author – YOU!.

Create Your Own Hardcover Book

Publish your story by printing it out on the special paper included, and put the book together using the **bookjacket, colorful stickers, and full page illustrations** included in each package. (To make extra books, refill packs of book materials are available but not necessary.)

ENTER THE GREAT AMERICAN WRITING CONTEST

Win over $1,000.00 in prizes . . . PLUS publication and distribution of your book . . . PLUS "new author treatment" including multimedia attention . . . PLUS a computer for your school.

Winners will be selected in 3 age categories: Adventures in Space (Grades 4 and below); Castles & Creatures (Grades 5-6); Mystery! (Grades 7-12). EVERY ENTRANT WINS A PRIZE.

Get Started Now: Send for rules and entry forms. For dealer location or Visa/MasterCharge orders call: **(201) 679-0200.**

Send to **Woodbury Software**
127 White Oak Lane, CN 1001, Old Bridge, NJ 08857

PLAYWRITER SERIES

_____ Please send me the official "Great American Writing Contest" rules and entry forms.

_____ Please send me the PlayWriter titles indicated. Enclosed is $39.95 plus $2.50 shipping & handling for **each** title ordered. New Jersey residents add 6% sales tax.

Check Machine Type
☐ Apple II Series ☐ Commodore 64/128 ☐ IBM PC/PC Jr.

Quantity
_____ Tales of Me
_____ Mystery!

Quantity
_____ Adventures in Space
_____ Castles & Creatures

Name _____ Child's Grade _____
Address _____ Phone _____
City _____ State, Zip _____

WOODBURY
Software For Success!
127 White Oak Lane, CN 1001, Old Bridge, NJ 08857

Contest co-sponsors include: D.C. Comics, Grolier Electronic Publishing, InCider, Run, Instructor Magazine

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 55 on Reader Service card.

commodore

COMPUTER PRODUCTS AT . . .
COMPUTER CREATIONS

Call TOLL FREE for Software Prices Not Listed!!!

ACCESS		Pole Position 2 (D)	19	Zork I (D)	23
Beach Head 2 (D)	26	The Goonies	19	**MICROPROSE**	
Mach 5 (R)	23	Zorro (D)	19	Acro Jet: Advanced Flight Simulator (D)	23
Raid Moscow (D)	25	**ELECTRONIC ARTS**		Crusade Europe (D)	27
ACTIVISION		Moviemaker	24	Decision in Desert (D)	27
Game Maker	24	Europe Ablaze	36	F-15 Strike Eagle (D)	21
Great American Cross Country Road Race (D)	21	Heart of Africa	24	Gun Ship: The Helicopter Simulation (D)	Call
Hacker (D)	21	Adventure Const Set (D)	28	Kennedy Approach (D)	23
Master of the Lamps (D)	21	Archon 2 (D)	24	Silent Service Submarine Simulation (D)	23
Slot Car Const	24	Mail Order Monsters (D)	24	**SPRINGBOARD**	
AVALON HILL		Music Const Set (D)	17	Newsroom	34
Panzer Jagd (D)	19	Murder on the Zinderneuf (D)	14	Clip Art Vol. 1	21
Jupiter Mission 1999	23	One-on-One (D)	24	**MINDSCAPE**	
Super Bowl Sunday (D)	19	Pinball Const. Set (D)	17	Bank St. Music Writer (D)	26
Telenguard (D)	19	Racing Dest. Set (D)	24	Halley Project (D)	26
Tournament Golf (D)	19	Seven Cities Gold (D)	24	Perfect Score SAT (D)	49
Batteries Included		Skyfox (D)	24	**ORIGIN**	
Paperclip 64 or 128	41	**EPYX**		Ultima 3 (D)	39
Homepak	35	Ballblazer (D)	27	**SSI**	
Consultant 64 or 128	41	Fast Load (R)	27	Battalion Commander (D)	27
BRODERBUND		Jet Combat Simulator	19	Colonial Conquest (D)	27
Bank St. Writer (D)	33	Rescue on Fractalus (D)	27	Computer Ambush(D)	39
Champ Loderunner (D)	23	Summer Games 2 (D)	26	Computer QB (D)	27
Karateka (D)	21	Winter Games (D)	27	Field of Fire (D)	27
Mask of the Sun (D)	26	World's Greatest Football (D)	27	Germany 1985 (D)	39
Print Shop (D)	29	**FIRST STAR**		Imperium Galactum (D)	27
Print Shop Graphics Library #1 (D)	17	Spy vs. Spy (D)	21	Kampfgruppe (D)	39
Print Shop Graphics Library #2 (D)	17	**HAYDEN**		Norway 1985 (D)	24
Print Shop Graphics Library #3	17	Sargon 2 (D)	15	Phantasie (D)	27
Stealth (D)	21	Sargon 3 (D)	33	**SUBLOGIC**	
DATASOFT		**INFOCOM**		Flight Simulator 2 (D)	36
Alternate Reality (D)	28	Enchanter (D)	23	**TIMEWORKS**	
Bruce Lee (D)	19	Hitchhiker's Guide to the Galaxy (D)	23	Data Manager 2 (D)	33
Conan Barbarian (D)	19	Infidel (D)	23	Swiftcalc/ Sideways (D)	
Elevator Action (D)	19	Planetfall (D)	23	Wordwriter/Speller (D)	33
Mr. Do (D)	17	Sorcerer (D)	26		
		Wishbringer (D)	23		

COLORED DISKS AS LOW AS 79¢ EACH

FLOPPY DISKS AS LOW AS 59¢ EACH

Fully guaranteed. Includes sleeves and hub rings.
DISKETTES (2 box minimum) 10 per box

5¼"	BLACK GENERIC BULK		COLORED GENERIC BULK	
BULK	SS/DD	DS/DD	SS/DD	DS/DD
20-69	.74 ea.	.99 ea.	.89 ea.	1.09 ea.
70+	.59 ea.	.85 ea.	.79 ea.	.99 ea.

5¼"	Black Generic	Color. Generic	BASF	Maxell
Boxes (10)	SS/DD	SS/DD	SS/DD	SS/DD
2 - 6	8.90	10.90	10.90	16.90
7+	7.40	9.90	9.90	15.90

To order call **TOLL FREE**

1-800-824-7506

ORDER LINE ONLY

COMPUTER CREATIONS, Inc.

P.O. BOX 493 - DAYTON, OHIO 45459

For information, order inquiries, or for Ohio orders (513) 435-6868
Order Lines Open 9 a.m. to 9 p.m. Mon.-Fri. 10 a.m. to 4 p.m. Sat. (Eastern Standard Time). Minimum $15 per order. C.O.D. (add $3.00). Please specify computer system. Call toll free number to verify prices and availability of product. Prices and availability are subject to change without notice. We ship C.O.D. to Continental U.S. addresses only! Please include 4% shipping on all Hardware orders (min. $4.00). Software and accessories add $3.00 shipping and handling in Continental U.S. Actual freight will be charged outside U.S. to include Canada, Alaska, Hawaii, Puerto Rico and APO. Ohio residents add 6% sales tax. Canadian orders 5% shipping. (Min. $5.00). All other foreign orders: please add 15% shipping. (Min. $10). For immediate delivery send cashier's check, money order or direct bank transfers. Personal and company checks allow 3 weeks to clear. School purchase orders welcome. Due to our low prices, all sales are final. NO CREDITS. All defective returns must have a return authorization number. Please call (513) 435-6868 to obtain an RA#, or your return will not be accepted for replacement or repair.

CHANGE UNIT (all)—Use this program if you have a second drive and want to change the device number. Actually, this is not very useful unless you are only borrowing another disk drive. The 1571 can also be changed with the DIP switches on the back; this is a better way to do the unit change.

UNSCRATCH—You just scratched a file and realized it was the only copy you had. That's no problem if you just set that disk aside and load this program. Put the other disk back in and run the UNSCRATCH program. For it to work, you must know what kind of file was scratched. This can be a real life saver!

LOAD ADDRESS (all)—This program allows you to change the load address of a program or find the SYS address for a machine language program. The address must be entered in decimal.

FILE.DEMO (all)—These two programs demonstrate the basic ideas of relative and sequential files. Both programs contain REM statements to guide you through them. Remember to save these programs to a disk without the write-protect notch covered; otherwise, a disk error will result.

SEQ LISTER (all)—You can use this program to read word processing or any other sequential files from disk. One problem you might find is that control characters are also printed on the screen. This may cause color changes or other strange things to happen. The program simply dumps the data to the screen, so if a word is too long, it continues on the next line (there's no word-wrap feature). This is still easier than loading a word processor in order to look at a file or two.

DATAMAKER.## (C-64, C-16 and Plus/4)—If you need to convert a machine language program into Data statements, first load your machine language program and then run the DATAMAKER program for your computer.

HEADER CHANGE (all)—Perhaps you have a disk that you named long ago and now realize that another name would describe it better. With this program, you are able to rename the disk without changing anything else on the disk.

64.AUTOSTART (C-64)—Create a new program that will automatically run the original program. This will be handy for machine language programs. By converting the original ML program to an auto-start program, you'll never forget the SYS address required for the original ML program, as it runs automatically. (This is not the same as the AUTOBOOT MAKER for the C-128; that program boots a program, while this one requires you to specify the program to load.)

PRINTER TEST (all)—Test your Commodore printer with this program to see if all the characters are printed properly.

FORMAT DISK (all)—If you are a beginner and don't know how to format a disk, this program will do the job for you. (Read your user's guide to find how to format on your computer.)

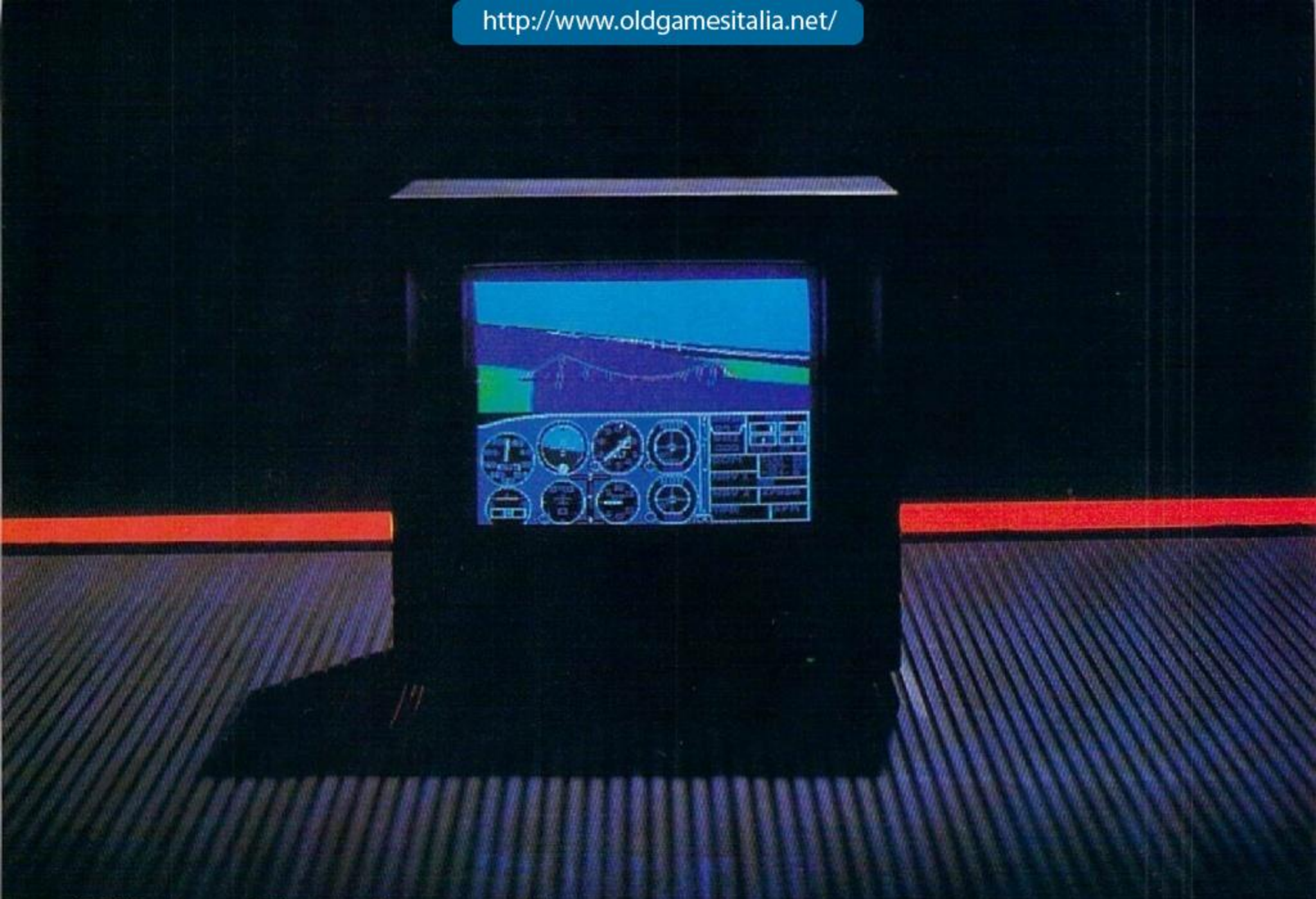
AUTOBOOT MAKER (C-128)—You can have one autoboot program on any disk you use with the C-128. This program will set up an autoboot function for the program you specify.

Well, there you have it. If you have a C-128, I think you'll enjoy the 1571's added features and speed. R

Address all author correspondence to Jim Borden, 641 Adams Road, Carlisle, PA 17013.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Flight Simulator II Scenery Disks

The Challenge of Accomplished Flight

With a realism comparable to (and in some ways even surpassing) $100,000 aircraft flight simulators, Flight Simulator II includes full flight instrumentation and avionics, and provides a full-color out-the-window view. Instruments are arranged in the format standard to modern aircraft. All the radios needed for IFR flight are included. Front, rear, left, right, and diagonal views let you look in any direction. Program features are clearly documented in a 96-page Pilot's Operating Handbook.

For training in proper flight techniques, Flight Simulator II includes another 96-page instruction manual, compiled by two professional flight instructors with over 8,000 hours flight time and 12,000 hours of aviation teaching experience. You'll learn correct FAA-recommended flight procedures, from basic aircraft control through instrument approaches. To reward your accomplishments, the manual even includes a section on aerobatic maneuvers.

The Realism and Beauty of Flight

Go sight-seeing over detailed, realistic United States scenery. High-speed graphic drivers provide an animated out-the-window view in either day, dusk, or night flying modes.

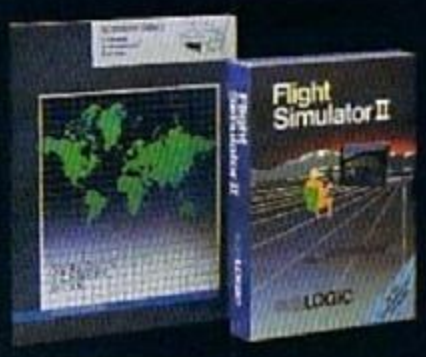
Flight Simulator II features over 80 airports in four different scenery areas: New York, Chicago, Seattle, and Los Angeles. Six additional Scenery Disks covering the entire Western half of the United States are now available in IBM and C64/128 disk formats.

Apple and Atari versions will be released soon. Each disk covers a geographical region of the country in detail, and is very reasonably priced.

The Pure Fun of "World War I Ace"

When you think you're ready, you can test your flying skills with the "World War I Ace" aerial battle game. This game sends you on a bombing run over heavily-defended enemy territory. Six enemy fighters will attempt to engage you in combat as soon as war is declared. Your aircraft can carry five bombs, and your machine guns are loaded with 100 rounds of ammunition.

See Your Dealer. Flight Simulator II is available on disk for the Apple II, Atari XL/XE, and Commodore 64/128 computers for $49.95. Scenery Disks for the C64 and IBM PC (Jet or Microsoft Flight Simulator) are $19.95 each. A complete Western U.S. Scenery six-disk set is also available for $99.95. For additional product or ordering information, call (800) 637-4983.



Apple II is a trademark of Apple Computer, Inc.
Atari XL and XE are trademarks of Atari Corp.
Commodore 64 and 128 are trademarks of Commodore Electronics Ltd.
IBM PC is a registered trademark of International Business Machines Corp.

subLOGIC Corporation
713 Edgebrook Drive
Champaign IL 61820
(217) 359-8482 Telex: 206995

Order Line: (800) 637-4983
(except in Illinois, Alaska, and Hawaii)

Circle 26 on Reader Service card.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 189 on Reader Service card.

New toll free number:
1-800-541-1541

KEYMASTER

The easiest-to-use, most-powerful disk backup program ever written for the 64.

With one 1541 drive:

- **FAST** FILE COPIER — up to 5 times faster!
- **FAST** full protected — disk GCR nibble copier
- **FAST** full unprotected — disk copier
- **KEYMASTER** protected — disk unlocking kit**
- **FAST** 10 second disk formatter

With two 1541 drives (NO disk swapping required during copying):

- **FAST** file copier — up to 6 times faster!
- **FAST** full protected — disk GCR nibble copier
- **FAST** full unprotected — disk copier

** **KEYMASTER** unlocks protected disks by **ELIMINATING** the protection scheme originally written on the disk.
** Once one of KEYMASTER's KEYS has unlocked a disk, the program can generally be **FILE COPIED** onto another disk (also making the program compatible with non-1541 drives). If it is not file copyable, it can be fast nibble copied.
** **50 KEYS** for popular programs will be provid ded on the first KEYMASTER disk.
** Frequent updates of 25 to 50 additional KEYS will be available (no original disk return required for updates!).

ALL OF THIS AT THE RIGHT PRICE! ONLY —

$29.95 for KEYMASTER
$10.00 for update disks

KEYMASTER created by Jim Drew.

New toll free number:
1-800-541-1541

MAGNUM LOAD BLOWS THE OTHERS AWAY!

ATTENTION 1541 AND MSD OWNERS!

- MAGNUM LOAD will LOAD and VERIFY programs up to **6 TIMES FASTER** than before. It is a new replacement KERNAL (operating system) ROM chip for your Commodore 64 or 128 computer.
- A high speed loader, high speed verify, disk drive no-head-rattle routine (1541 drive) and a BASIC UNNEW ROUTINE (MSD drive) have replaced the Datasette tape routines.
- The first program on a disk may be loaded and run by pressing only two keys (SHIFT/RUN).
- Unlike the older, cartridge-style fast loaders, no ports are tied up at the rear of your computer, the screen is not blanked during loading and there is no wear-and-tear on the game port.
- For maximum convenience and performance, MAGNUM LOAD is installed DIRECTLY in the circuit board. Generally, a socket has already been provided to make the operation easy, but occasionally some soldering may be required.
- Now you can give your 1541 disk drive "1571 speed."

The chart below compares ACTUAL MEASURED loading times.

PROGRAM	STAR DOS	REGULAR LOAD	MACH 5	FAST LOAD	MAGNUM LOAD
Bristol II (EPYX)	?	144 sec	43 sec	41 sec	31 sec
Music Shop (BRODERBUND)	?	105 sec	105 sec*	105 sec*	21 sec
Hitchhiker's Guide to the Galaxy (INFOCOM)	?	70 sec	70 sec*	**	68 sec*
On-field Football (GAMESTAR)	?	159 sec	66 sec	63 sec	56 sec
EASY FINANCE I (COMMODORE)	?	58 sec	13 sec	13 sec	11 sec

* = Will not fast load — defaulted back to regular load.
** = *Failed to load at all.*

FIVE VERSIONS OF MAGNUM LOAD ARE AVAILABLE TO FIT ANY NEED.

VERSION	APPLICATION	PRICE
A	C64 computer and one 1541 drive	$24.95
B	C64 and one MSD drive (single or dual)	$24.95
C	C64, one 1541 drive AND one MSD drive (switchable)	$29.95
D	C128 computer and one 1541 drive***	$24.95
E	C128 and one MSD drive (sin[illegible] or dual)***	$24.95

*** = Fully compatible with 128 & CP/M modes. Cartridge versions MUST be UNPLUGGED to access 128 & CP/M modes!

ORDER THE VERSION YOU NEED NOW!

MAGNUM LOAD created by Jim Drew

C64, C128, 1541, 1571 and Datasette TM Commodore; MSD TM Micro Systems Development; MACH 5 TM ACCESS; FAST LOAD TM EPYX; STAR DOS TM Star Point

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

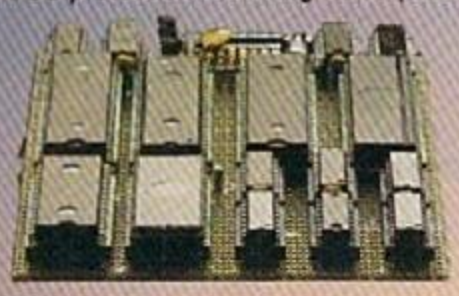
Circle 189 on Reader Service card.

THE SHADOW $89.95

Shadow is a new and revolutionary piece of hardware that is used to duplicate even the most protected software. Fitting inside the disk drive (no soldering required), SHADOW takes complete control of all functions giving near 100% copies.

Being the best utility available today, it will even copy the other copy programs.

Because of the Shadow's unique abilities, we feel DOS protection is a thing of the past.



*HACKER PACKAGE $39.95

Shadow a disk while it loads, then read an exact list of:

- Track, sector, ID, check sum, drive status
- High and low track limits
- Density use on each track
- Half tracks that are used
- Command recorder shows commands that were sent to 1541 while program was loading
- RAM recorder records custom DOS

Shadow-scan any disk, then read exact list of:

- Valid tracks, half tracks, partial tracks and segments
- Sync mark link, header block links and data block links
- Track to track synchronization

Exclusive snap shot recorder will give you an exact copy of the 1541 RAM and can be viewed, saved or printed. Plus many more features included.

*Requires Shadow

*GT PACKAGE $44.95

Highly sophisticated and integrated piece of hardware that turns you 1541 into something you've always wanted.

- Track and sector display
- Drive reset switch
- Device number change
- Half track indicator
- Abnormal bit density indicator
- Shadow on-off indicator

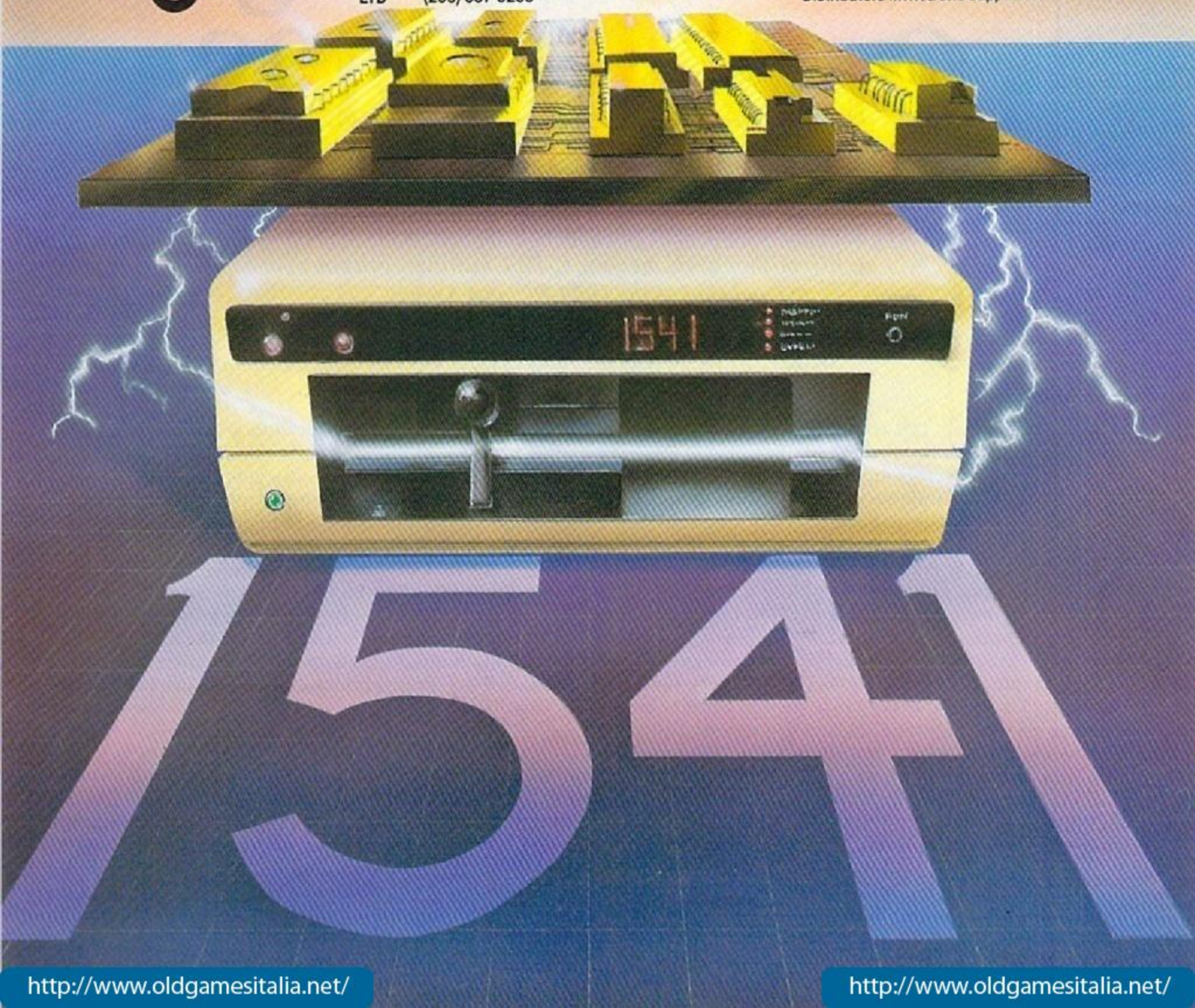
The Shadow display will give you an accurate display of precisely what track you are accessing during a normal load even if the program does a read past track 35.

*Requires Shadow

Order by phone 24 hrs./7 days or send cashier's check/money order payable to Megasoft. Visa, MasterCard include card number and expiration date. Add $3.50 shipping/handling for continental U.S., $5.50 for UPS air. CODs add $7.50, Canada add $10.00. Other foreign orders add $15.00 and remit certified U.S. funds only. Distributors invited and supported.

MegaSoft LTD

P.O. Box 1080 • Battle Ground, Washington 98604
1-800-541-1541
Canadian/Foreign Orders Call
(206) 687-5205



http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Ultra Hi-Res Graphics— A Breakthrough On Your C-128

They said it couldn't be done. But this article proves them wrong. Not only can you generate high-resolution graphics in 80-column mode on your C-128, but these graphics rival that of the IBM PC and Amiga.

By LOUIS R. WALLACE and DAVID P. DARUS

The Commodore 128 computer is a remarkable machine. It contains one of the best Basic languages ever included with a microcomputer, has 128K of RAM and is expandable. It supports high-resolution graphics in Composite mode. It contains both a working C-64 and a Z-80 CP/M computer, has a great keyboard and a beautiful 80-column display. Perhaps best of all, it's inexpensive. What more could you want?

The 80-column screen on the C-128 is also a welcome blessing to those of us who find 40 columns a limitation. This new 80-column capability is made possible by a second graphics chip, the 8563. This is a very powerful device, making possible the crisp, clear, color text on the C-128 in 80-column mode. This chip provides 640 × 200 resolution instead of the standard 320 × 200 resolution that is available in 40-column mode.

There's a lot of mystery surrounding the C-128's graphics capabilities, and many of you must have a lot of questions. This article is meant to dispel them.

First and foremost, the question arises about bit-mapping, or hi-res graphics. Since the 80-column text is made possible by a resolution of 640 × 200, many of us hoped that we'd be able to use that for graphics. However, Basic 7.0 contains no provision for high-resolution graphics using the 80-column display.

We were told originally that we might be able to do some elementary graphics via custom characters on the 80-column screen, but not true hi-res graphics.

Also, the technical specifications for the 8563 state that it has only limited bit-mapping capabilities. This, more than anything, fired our interest in seeing just how limited it actually is.

Good News

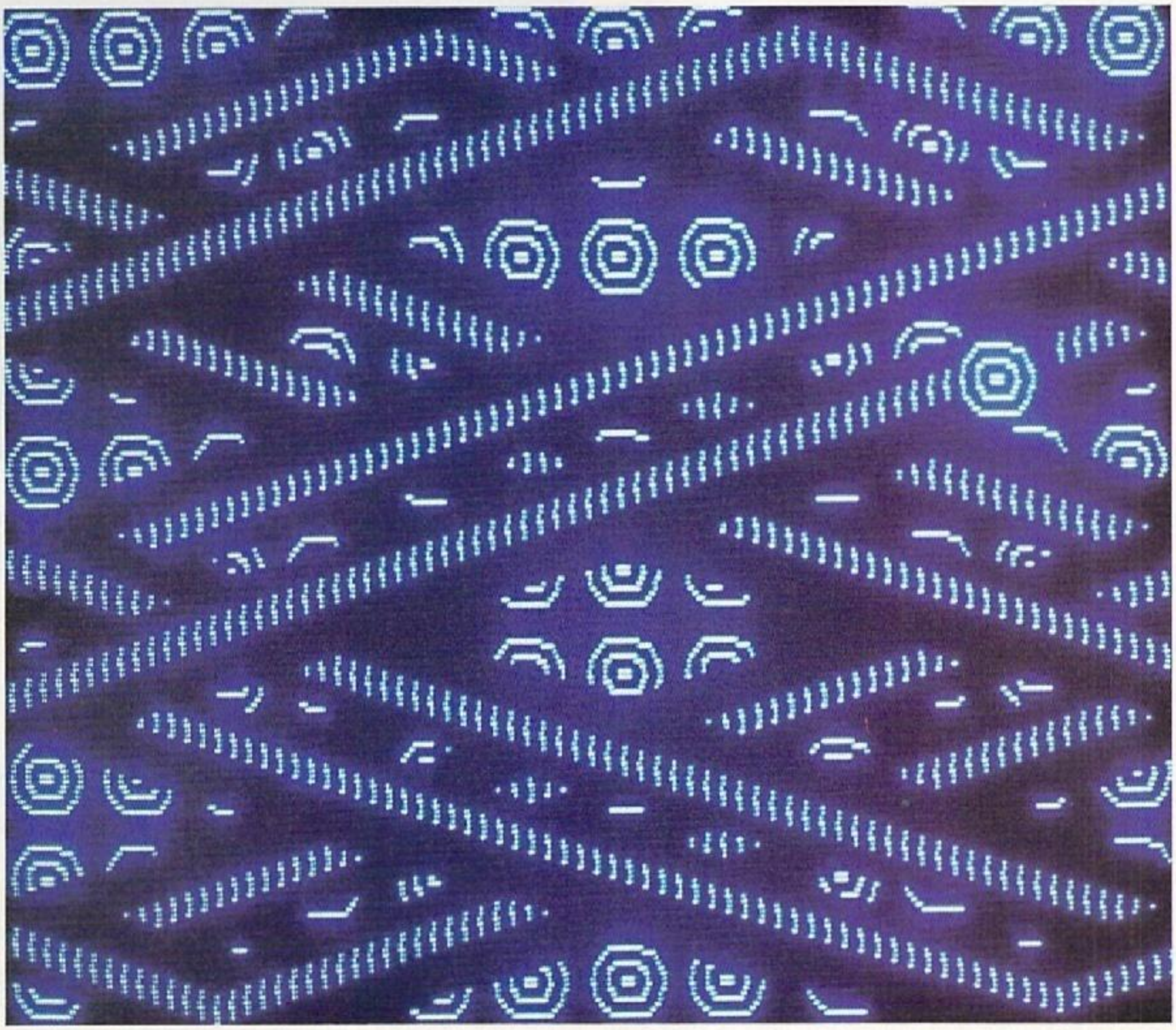
We are pleased to announce that our research has led to the discovery that *yes*, it is possible to use the 640 × 200 screen in Bit Map mode! This means that in Composite mode, you can have twice the resolution of the C-64 or

RUN It Right

C-128 (in 80-column mode); disk drive

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



C-128. And since it is an RGB display, the graphics are crisper and cleaner than ever. In case you're interested, 640 × 200 is equivalent to the resolution available on the IBM PC and the Amiga (in Non-Interlaced mode).

The 8563 has a special 16K RAM area completely separated from the normal system RAM, so no user RAM is needed for the display. However, because of this, trying to communicate with the chip is very difficult. In fact, there are only two addresses in the whole C-128 memory map that have any effect on the chip at all. These registers, $D600 (54784) and $D601 (54785), serve as a window from which you may address the chip registers and its 16K RAM bank.

The first address, $D600, is the 8563 register-select byte; the second, $D601, is the 8563 data I/O byte. To access the chip, you must put into $D600 the chip register number you want to read or write to, wait until the chip is ready, and then Peek or Poke into $D601 the value you want. It is quite a bottleneck, effectively precluding any usable hi-res graphics using Peeks or Pokes from Basic. But from machine language it's a different story.

We have created a set of machine language commands that are wedged into the C-128 to take advantage of its 640 × 200 graphics power. These will give you a very powerful command set that works with Basic 7.0 and allows you to use these new graphics freely.

There are 14 new commands (see Table 1), most of which are used to work with the 640 × 200 display. One, @FONT, is a special command—for 80-column Text mode only—that allows you to download new character sets from system RAM to the 80-column chip RAM. Since the 80-column text screen allows for two complete character fonts at once, you can use @FONT for some very interesting text displays.

Accompanying Programs

Included with this article are several programs. The first is called C-128 Ultra Hi-Res. It is a Basic loader

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

```
@FONT,Char Set #,RAM Address
@TEXT
@GRAPHIC,BC,FC
@CLR,Value
@DOT,X,Y,Mode
@DRAW,X1,Y1,X2,Y2,Mode
@BOX,X1,Y1,X2,Y2,Mode
@BAR,X,Y,dX,dY,Ht,Mode
@SAVE,Type,"filename"
@LOAD,Type,"filename"
@CHAR,Charset Address,X,Y,Ht,Width,"string"
@COPY,SX,SY,dX,dY,Destination X,Destination Y
@STASH,Buffer Address,X,Y,dX,dY
@FETCH,Buffer Address,X,Y
```

Table 1. *C-128 Ultra Hi-Res command set.*

This is a demo of 80 characters per line. You will notice it is the same as in normal 80 column text mode.
This is a 40 column character test. Here we have the same resolution as in composite mode.
This is double height, double width. Looks good, right?
This is larger!
Let's go on...

program that will Poke the machine language into memory for you and save the program as a small machine language module called Ultra Hi-Res, which you can easily load into memory.

The second program is called Ultra Hi-Res Boot and should be used to load the Ultra Hi-Res machine language module and set up the computer for its use. You should run it only once, as Ultra Hi-Res creates some tables that cannot be written over. The best method is to use the C-128's autoboot feature and create an autoboot disk that loads and runs Ultra Hi-Res Boot for you. This boot performs several functions. First, it issues a

```
GRAPHIC 1,1:GRAPHIC 5
```

command. This is the only time you should use the normal Graphic command. It allocates a 9K area in the computer to be used for composite hi-res graphics. Since you're going to be using the new Ultra Hi-Res mode, this area can now be used to hold the machine language commands in the wedge.

Next, it Pokes the start-of-Basic variables in bank 1 up 16K, giving you a 16K RAM buffer for the @STASH command.

It then loads the Ultra Hi-Res machine language module and activates it with SYS 8448. At this point, you now have the wedge active.

The third program is called Program Setup and is intended as a base from which you can start writing your own programs.

It begins by going into Fast mode. One of the nice features about the 80-column chip is that you can use the Fast command to allow the computer to run at 2 MHz instead of 1 MHz, and the screen display is always visible. (In Composite mode, the screen goes blank during Fast mode.)

Next, it issues the Poke to set up the 16K buffer for @Stash (see @Stash later in this article for information about increasing or decreasing the buffer). The new @Graphic command is issued next, going to Ultra Hi-Res mode and setting up background and foreground colors.

Line 50 issues the @CLR command with a value of 0, which will clear the 640 × 200 bit-map display, and line 60 sets up the Basic 7.0 Trap command. This is very important because, in case of a Syntax error or program crashing, it will instruct the computer to go to the line following the Trap instruction. Here it goes to line 10010, which gets you out of Ultra Hi-Res mode, prints the line that has the problem (with the Help command) and ends the program. Even pressing the stop key is handled by the Trap statement. It is highly recommended that you include the Trap statement in your programs.

The Demo Programs

Next are five short demo programs that use various forms of the new command set. The first is an example of the versatility of the @CHAR command, which allows many different sizes of text (and many different styles) all at once. It even has a special form that will give you 160 columns on one line! Imagine the possibilities!

The second demo program is a simple line-drawing demo that creates a very interesting graphics effect called a *moire* pattern. It looks very good in 640 × 200.

The third demo is one that uses the 3-D Bar command. This command allows you to create three-dimensional bar graphs so easily it will amaze you (and your friends)!

The fourth demo uses Basic to create circles, and the circle routine could very easily be modified for use as a general-purpose subroutine. After the circles are drawn it uses the @Copy command to duplicate them, and then uses the @Stash and @Fetch commands to create a form of animation called *Blitters*. That's right, the C-128 now has blitter graphics capabilities. (Blitters are a form of high-speed bit-map transfers, often mentioned in reference to Commodore's new Amiga computer.)

The last demo is an impressive demonstration of the power of the new commands. It creates a fully animated demonstration of a three-dimensional cube rotating and changing size in real time. It uses the @Stash and @Fetch commands (and a 32K @Stash buffer) to create a small movie. After seeing this, you'll probably be highly motivated to begin using these new Basic commands on your C-128.

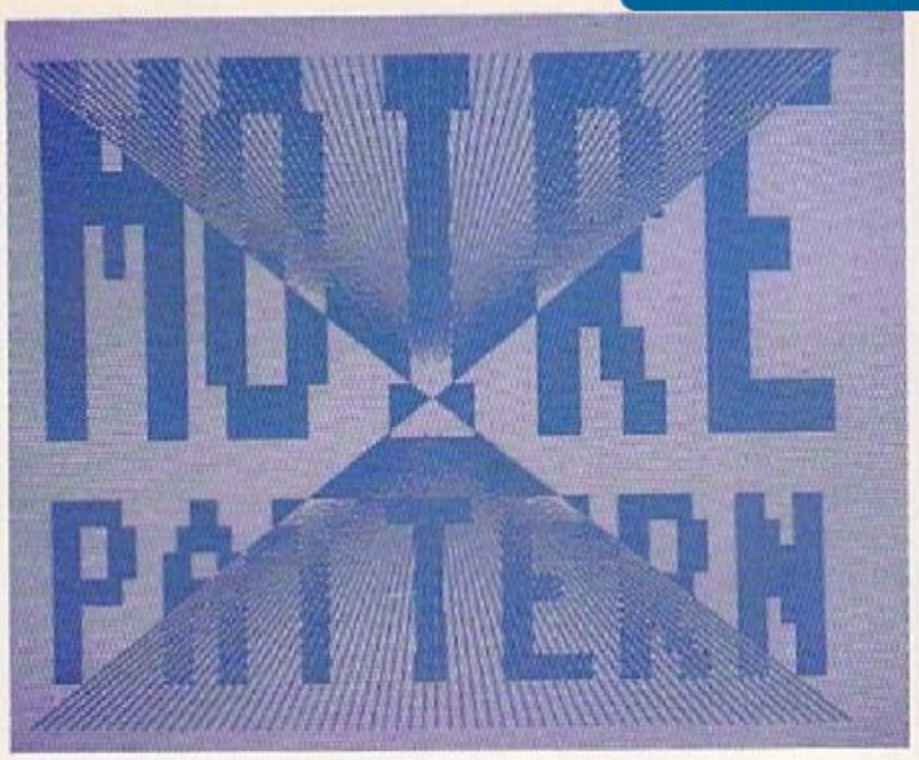
The C-128's Memory

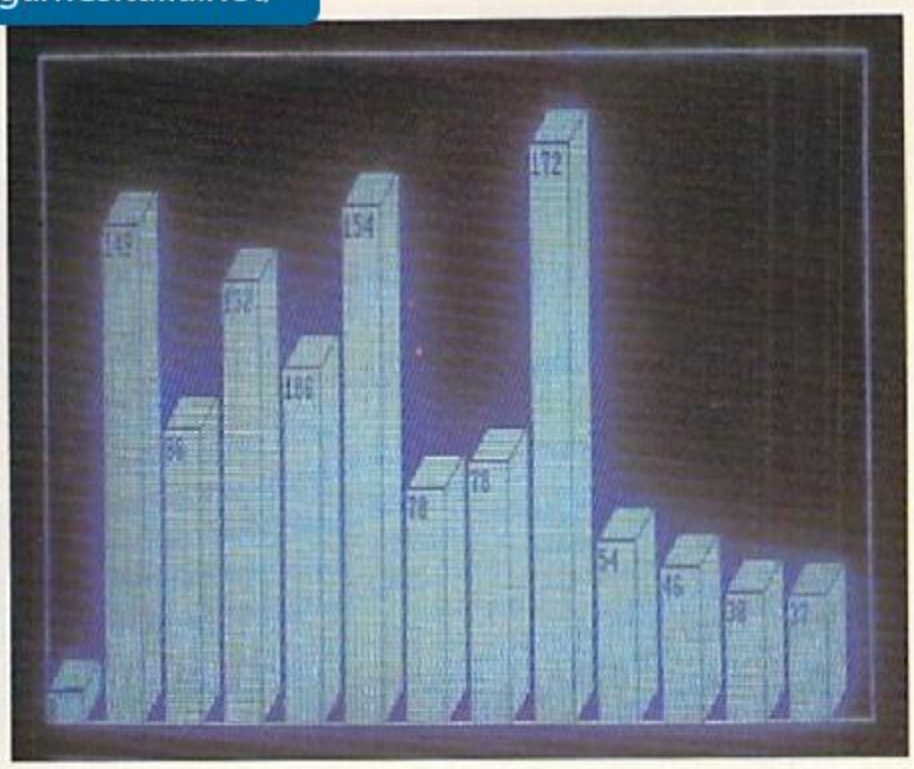
The memory organization of the C-128 is a very complex subject, and we cannot go into it in detail in this article. However, you need some information to use the Ultra Hi-Res command set effectively.

In an unexpanded C-128 there are two banks of RAM,

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/





bank 0 and bank 1. Bank 0 is where your Basic program resides, and bank 1 is where your variables are stored. When you enable the normal composite bit-map graphics display with the

GRAPHIC 1,1

statement, the C-128 moves your program in bank 0 up 9K to make room for the graphics screen and its color memory. That's why the Ultra Hi-Res Boot program issues it as its first statement.

This area can now be used to store the machine language program that gives you Ultra Hi-Res mode. If you were to use that area again in a program while in Ultra Hi-Res mode, it would erase the whole program and crash the computer.

This is also true of graphic multicolor composite Bit Map mode, which you should never use in your programs while Ultra Hi-Res is enabled. The same thing is true of the Graphic CLR command, which de-allocates the 9K, making it available for Basic. And the SCNCLR command should never be used, for the same reasons as the Graphic command.

Bank 1 contains about 64K to be used for variables. Registers 47 and 48 contain the address for the start-of-Basic variables. The normal value for 47 is 0; for 48, it's 4 (this is the address $0400 in hex and 1024 in decimal). Everything above that is used for variables. But by Poking a larger value in register 48, followed by the Basic CLR command, you can trick the C-128 into giving you some extra RAM that you can use in your programs. The Ultra Hi-Res Boot program, for example, automatically sets up an extra 16K buffer in line 20 with

```
POKE47,0:POKE48,68:CLR
```

You can increase or decrease this buffer by changing the contents of register 48. (Be careful not to make it less than 4!) If your program will be using a lot of variables and won't be using the @Stash and @Fetch commands, you won't need a buffer area. In this case, you might want that RAM to be used strictly for variables, so start off your program base with the line:

```
POKE47,0:POKE48,4:CLR
```

However, some programs (such as the 3-D cube demo) require even more RAM in their buffer, so you will have to increase the size by Poking to register 47 and 48.

```
POKE47,0:POKE48,132:CLR
```

This provides you with a 32K buffer in which to store graphics. However, you've now cut your variable RAM in half. You will have to decide if you need to change it. In most cases, the default of 16K will be sufficient.

One more point. The screen resolution (640 × 200) calculates to 128,000 bits, or 16K of RAM. That's exactly the amount of RAM available to the 8563 chip, and does not leave any RAM for 80-column Text mode. If you need to use the Text mode and have an important screen in Hi-Res mode, you will have to save that screen (to disk, using the @Save command, or in the @Stash buffer), go to Text mode with the @Text command, perform your needed function, return to Ultra Hi-Res mode with the @Graphic command and restore your screen from the buffer or disk.

When would you need to do this? One time might be when you need to input some value from the keyboard while the program is running. The Input command prints a question mark on the text screen. In Ultra Hi-Res mode, however, there's no RAM left for the 80-column text screen, so the operating system would corrupt your Ultra Hi-Res program with the question mark. Therefore, use the GETKEY in place of the Input command, unless you toggle back to Text mode.

C-128 Ultra Hi-Res Commands

After you have successfully activated the C-128 Ultra Hi-Res program, the following commands are available to you in addition to all of Basic 7.0 (except those graphics previously mentioned).

@FONT,character set #,RAM Address. This command allows you to display (in 80-column Text mode) character fonts other than those offered by the default character set. There is room in the 8563 RAM for two sets, and they are normally the uppercase/graphics and the lowercase/uppercase sets. If you have access to other fonts that you wish to use, simply load them using the BLoad command, to some area of RAM in bank 0 (in Direct or Program mode) and issue the @Font command. There is 3K available for this, from 12992 to 16383. The Char Set # is either 0 or 1, and the RAM address is where BLoad placed the character set. You can change character fonts by pressing the shift key with the Commodore key or by printing CHR$(14) or CHR$(142).

@GRAPHIC,BC,FC. This turns on the 640 × 200 Bit Map mode. BC is background color and FC is foreground

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

color. When you're in Ultra Hi-Res mode, you are limited to two colors, and this command lets you choose them.

@TEXT. This turns off the Ultra Hi-Res mode and returns you to the normal 80-column text screen. You also return to the standard character font, so you'll have to issue the @Font command to re-enable any extra text fonts you want.

@CLR,value. This is used to clear the Ultra Hi-Res screen. Use a value of 0 to clear it and a value of 255 to fill it. Others can be used for special effects.

@DOT,X,Y,mode. This is used to plot a dot on the 640 × 200 screen. X is from 0–639; Y is from 0–199. Mode is either 0 (for erase) or 1 (for draw).

@DRAW,X1,Y1,X2,Y2,mode. This is the line-drawing command. X is 0–639; Y is 0–199. Mode is the same as in @DOT.

@BOX,X1,Y1,X2,Y2,mode. This will draw a box on the 640 × 200 screen. X1,Y1 are the coordinates of the upper-left corner; X2,Y2 are those of the lower-right corner. X is 0–639 and Y is 0–199. Mode is as in @DOT.

@BAR,X,Y,dX,dY,Ht,mode. @BAR draws a 3-D bar of a given height. X and Y are the coordinates of the lower-left side of the bar; dX and dY are the depth and width you wish; Ht is the height; mode is as in @DOT; X is 0–639; Y is 0–199; dX is 1–255; dY is 1–199; Ht is 1–199. The sum of Ht and dY cannot exceed 199; if it does, no bar will be drawn.

@SAVE,type,"filename". This will save to disk your hi-res screen display (not your program listing) called "filename." There are two types of saves. Type 0 is a normal 16K screen dump, which will give a disk file of 65 blocks. Type 1 is a special compressed form of save, where an intelligent data-compression process will shrink your screen to its smallest possible size. In some cases, it can cut the 65 disk blocks down to only a couple of blocks; but in other cases, it can cut more than 50% off the size of your file! The actual amount of reduction will depend on what is being displayed. It will never be bigger than 65 blocks. In most cases, this Compressed mode will be the best way to save your screens. Use the regular Basic 7.0 Save and Load commands for saving and retrieving your Ultra Hi-Res program listings.

@LOAD,type,"filename". This loads a screen called "filename" from disk. Type is either 0 or 1, depending on how it was saved. Be sure to load your file under the same type, or you will get a scrambled screen. Use the @Load and @Save commands in Program mode.

@CHAR,charset address,X,Y,Ht,Wd,"string". This is the high-resolution character driver. It allows you to print on the 640 × 200 bit-map screen in many sizes and styles. X is any number 0–639; Y is 0–199; Ht is 1–16; Wd is 0–16; and string is what you want it to print, either in quotes or as a string variable. The address is where in RAM you want the character set to be taken from. You can use the built-in sets at 53248 and 55296, or, with BLoad, you can load others into RAM and use them.

Built into the machine language is a special font that allows 160 characters per line. Its address is at 7168, and it requires a width of 0. You can use almost any character set made for the C-64 or C-128, as long as they are binary files. Check your user's group library for extra fonts, as it will probably have many.

You may also use special control codes inside the string, such as reverse-on and reverse-off. Control E causes the text to erase anything under it, while Control X performs an XOR on the screen, leaving anything already on your screen still visible. You can also underline your text with Control U and turn off underlining with Control N. Color codes have no effect.

@COPY,SX,SY,dX,dY,destination X,destination Y. This will allow you to duplicate any rectangular area of the screen in any other area. SX,SY are the starting coordinates of the upper-left corner you wish to duplicate. The dX and dY are the lengths (in pixels) you want to copy from SX,SY; dX is from 1–640, and dY is from 1–200. Destinations X and Y are the coordinates of the upper-left corner of the new position.

@STASH,buffer address,X,Y,dX,dY. This command allows you to store to the buffer a section of the screen and then recall it when needed. X and Y are the upper-left coordinates of the screen you want to save, and dX and dY are the lengths. The section of screen you store may be as small as a byte or as large as a screen. The buffer address is the location in the buffer where the piece of screen is to be stored. The buffer starts at 0, so the first section of screen you store should go to that address. You will need to know where the first stash of data ends in the buffer so you can store other screen data after it. You can find the next available buffer address with:

```
AD = PEEK(250) + PEEK(251)*256 + 1
```

You must do this immediately after issuing the Stash command. AD now contains the next available buffer address. You must keep these addresses stored so that you can recall them later with the @Fetch command.

@FETCH,buffer address,X,Y. This will recall the stored area at the buffer address and put it at X,Y. No other information is needed, as the @Stash command saves the length and depth of the area. The @Stash and @Fetch commands are very rapid, fast enough for some types of animation. See the circle demo and 3-D cube demo programs. You can use a simple For. . .Next loop with @Fetch to accomplish some pretty impressive blitter animation.

Room for Expansion

The 8563 chip can perform many unsuspected functions. It can scroll and handle light pens, double-pixel modes, interlaced modes and more. We've only begun to explore it, and the wedge is written to make it easily expandable to handle new commands (perhaps a Hard

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Copy command or a Fill). There's 9K of RAM set aside for growth; also, the program only goes from 7168 to 12992. That leaves room for you to add even more commands in the area from 12992 to 16383. For now, you could use that free RAM for character-set storage, but be careful and don't disturb the RAM from 7168 to 12992.

I'd like to thank Andy Finkle and Carolyn Sheppner of Commodore for their kind assistance on the 8563's technical aspects. R

Address all author correspondence to Louis R. Wallace, 6124B SW 11th Place, Gainesville, FL 32607.

Listing 1. *C-128 Ultra Hi-Res Basic loader.*

```
10 GRAPHIC1,1:GRAPHIC5                          :REM*44
20 FORZ=7168TO12992:READY:POKEZ,Y:TT=TT+Y:N
   EXT                                          :REM*28
30 IF TT<>48147ØTHENPRINT"YOU HAVE AN ERROR
   .":END                                       :REM*192
40 BSAVE"ULTRA HIRES",B0,P7168 TO P12992
                                                :REM*134
50 PRINT"ULTRA HIRES ML HAS BEEN SAVED!"
                                                :REM*106
60 END                                          :REM*62
70 DATA4,10,10,10,8,8,6,0                       :REM*72
80 DATA0,0,12,2,14,10,14,0                      :REM*244
90 DATA8,8,12,10,10,10,12,0                     :REM*244
100 DATA0,0,6,8,8,8,6,0                         :REM*112
110 DATA2,2,6,10,10,10,6,0                      :REM*114
120 DATA0,0,4,10,14,8,6,0                       :REM*50
130 DATA2,4,4,14,4,4,4,0                        :REM*138
140 DATA0,0,4,10,10,6,2,4                       :REM*222
150 DATA8,8,12,10,10,10,10,0                    :REM*16
160 DATA0,4,0,4,4,4,4,0                         :REM*124
170 DATA0,2,0,2,2,2,10,4                        :REM*60
180 DATA8,8,10,10,12,10,10,0                    :REM*172
190 DATA12,4,4,4,4,4,14,0                       :REM*156
200 DATA0,0,10,14,14,10,10,0                    :REM*32
210 DATA0,0,12,10,10,10,10,0                    :REM*10
220 DATA0,0,4,10,10,10,4,0                      :REM*134
230 DATA0,0,12,10,10,12,8,8                     :REM*142
240 DATA0,0,6,10,10,6,2,2                       :REM*52
250 DATA0,0,12,10,8,8,8,0                       :REM*134
260 DATA0,0,14,8,14,2,14,0                      :REM*83
270 DATA0,4,14,4,4,4,4,0                        :REM*131
280 DATA0,0,10,10,10,10,14,0                    :REM*143
290 DATA0,0,10,10,10,10,4,0                     :REM*163
300 DATA0,0,10,10,14,14,10,0                    :REM*109
310 DATA0,0,10,10,4,10,10,0                     :REM*131
320 DATA0,0,10,10,6,2,2,12                      :REM*167
330 DATA0,0,14,2,4,8,14,0                       :REM*183
340 DATA6,4,4,4,4,4,6,0                         :REM*101
350 DATA4,10,8,12,8,8,14,0                      :REM*181
360 DATA6,2,2,2,2,2,6,0                         :REM*229
370 DATA2,7,2,2,2,2,2,2                         :REM*113
380 DATA0,2,4,15,4,2,0,0                        :REM*179
390 DATA0,0,0,0,0,0,0,0                         :REM*57
400 DATA4,4,4,4,4,0,4,0                         :REM*15
410 DATA10,10,0,0,0,0,0,0                       :REM*137
420 DATA0,10,14,10,14,10,0,0                    :REM*73
430 DATA4,14,8,14,2,14,4,0                      :REM*207
440 DATA10,2,4,4,4,8,10,0                       :REM*237
450 DATA4,10,10,4,10,10,6,1                     :REM*71
460 DATA2,2,4,0,0,0,0,0                         :REM*209
470 DATA2,4,8,8,8,4,2,0                         :REM*239
480 DATA8,4,2,2,2,4,8,0                         :REM*237
490 DATA0,10,4,14,4,10,0,0                      :REM*17
500 DATA0,0,4,14,4,0,0,0                        :REM*103
510 DATA0,0,0,0,0,6,2,4                         :REM*123
520 DATA0,0,0,14,0,0,0,0                        :REM*58
530 DATA0,0,0,0,0,0,4,0                         :REM*200
540 DATA1,1,2,6,4,8,8,0                         :REM*44
550 DATA4,10,10,10,10,10,4,0                    :REM*34
560 DATA4,12,4,4,4,4,14,0                       :REM*228
570 DATA4,10,2,4,8,8,14,0                       :REM*172
580 DATA14,2,4,2,2,10,4,0                       :REM*212
590 DATA10,10,14,2,2,2,2,0                      :REM*154
600 DATA14,8,14,2,2,10,6,0                      :REM*46
610 DATA4,10,8,12,10,10,4,0                     :REM*186
620 DATA14,2,2,4,4,8,8,0                        :REM*108
630 DATA4,10,10,4,10,10,4,0                     :REM*204
640 DATA4,10,10,6,2,4,8,0                       :REM*44
650 DATA0,0,4,0,0,4,0,0                         :REM*192
660 DATA0,0,4,0,0,4,4,8                         :REM*220
670 DATA1,2,4,8,4,2,1,0                         :REM*140
680 DATA0,0,14,0,14,0,0,0                       :REM*208
690 DATA8,4,2,1,2,4,8,0                         :REM*190
700 DATA4,10,2,4,4,0,4,0                        :REM*108
710 DATA0,0,0,15,0,0,0,0                        :REM*252
720 DATA4,10,10,14,10,10,10,0                   :REM*116
730 DATA12,10,10,12,10,10,12,0                  :REM*184
740 DATA4,10,8,8,8,10,4,0                       :REM*166
750 DATA12,10,10,10,10,10,12,0                  :REM*140
760 DATA14,8,8,14,8,8,14,0                      :REM*44
770 DATA14,8,8,14,8,8,8,0                       :REM*65
780 DATA4,10,8,10,10,10,4,0                     :REM*85
790 DATA10,10,10,14,10,10,10,0                  :REM*149
800 DATA14,4,4,4,4,4,14,0                       :REM*33
810 DATA14,2,2,2,2,10,4,0                       :REM*185
820 DATA10,10,10,12,10,10,10,0                  :REM*115
830 DATA8,8,8,8,8,8,14,0                        :REM*203
840 DATA10,14,14,10,10,10,10,0                  :REM*89
850 DATA12,10,10,10,10,10,10,0                  :REM*113
860 DATA14,10,10,10,10,10,14,0                  :REM*157
870 DATA12,10,10,12,8,8,8,0                     :REM*23
880 DATA4,10,10,10,10,10,4,2                    :REM*237
890 DATA12,10,10,12,10,10,10,0                  :REM*217
900 DATA6,8,8,4,2,2,12,0                        :REM*5
910 DATA14,4,4,4,4,4,4,0                        :REM*15
920 DATA10,10,10,10,10,10,14,0                  :REM*153
930 DATA10,10,10,10,10,10,4,0                   :REM*211
940 DATA10,10,10,10,14,14,10,0                  :REM*207
950 DATA10,10,4,4,4,10,10,0                     :REM*167
960 DATA10,10,10,4,4,4,4,0                      :REM*169
970 DATA14,2,4,4,4,8,14,0                       :REM*73
980 DATA2,2,2,15,2,2,2,2                        :REM*7
990 DATA4,8,4,8,4,8,4,8                         :REM*251
1000 DATA2,2,2,2,2,2,2,2                        :REM*73
1010 DATA5,10,5,10,5,10,5,10                    :REM*111
1020 DATA2,9,4,2,9,4,2,9                        :REM*197
1030 DATA0,0,0,0,0,0,0,0                        :REM*188
1040 DATA12,12,12,12,12,12,12,12                :REM*114
1050 DATA0,0,0,0,15,15,15,15                    :REM*158
1060 DATA15,0,0,0,0,0,0,0                       :REM*90
1070 DATA0,0,0,0,0,0,0,15                       :REM*186
1080 DATA8,8,8,8,8,8,8,8                        :REM*154
1090 DATA10,5,10,5,10,5,10,5                    :REM*254
1100 DATA1,1,1,1,1,1,1,1                        :REM*86
1110 DATA0,0,0,0,10,5,10,5                      :REM*118
1120 DATA4,9,2,4,9,2,4,9                        :REM*254
1130 DATA3,3,3,3,3,3,3,3                        :REM*32
1140 DATA2,2,2,3,2,2,2,2                        :REM*216
1150 DATA0,0,0,0,3,3,3,3                        :REM*52
1160 DATA2,2,2,3,0,0,0,0                        :REM*150
1170 DATA0,0,0,14,2,2,2,2                       :REM*112
1180 DATA0,0,0,0,0,0,15,15                      :REM*66
1190 DATA0,0,0,3,2,2,2,2                        :REM*184
1200 DATA2,2,2,15,0,0,0,0                       :REM*58
1210 DATA0,0,0,15,2,2,2,2                       :REM*156
1220 DATA2,2,2,14,2,2,2,2                       :REM*244
1230 DATA8,8,8,8,8,8,8,8                        :REM*48
1240 DATA12,12,12,12,12,12,12,12                :REM*58
1250 DATA3,3,3,3,3,3,3,3                        :REM*152
1260 DATA15,15,0,0,0,0,0,0                      :REM*176
1270 DATA15,15,15,0,0,0,0,0                     :REM*112
```

Continued on p. 90.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Trusted Software and

Language Software

ADA TRAINING COURSE

Teaches you the language of the future. Comprehensive subset of language. Includes: editor; syntax checker, compiler; assembler; disassembler, handbook. $39.95

ASSEMBLER/MONITOR

Macro assembler and extended monitor. Supports all standard functions plus floating point constants. Monitor supports bank switching, quick trace, single step, more. $39.95

BASIC COMPILER

Compiles complete BASIC language into either fast 6510 machine language and/or compact speedcode. Supports overlays and many extended BASIC commands. C-64 $39.95
C-128 $59.95

SUPER C COMPILER

Full compiler, Kernighan & Ritchie standard, but without bit fields. Includes powerful editor (41K source file); compiler, library (supports many functions) and linker. C-64 $79.95
C-128 $79.95

FORTH LANGUAGE

Based on Forth 79 (+ parts of '83). Supports hires graphics and sound synthesizer. Full screen editor, programming tools, assembler, samples, handbook. $39.95

MASTER

Professional development package for serious applications. Indexed file system, full screen & printer management, programmer's aid, multi-precision math, royalty-free runtime, more. $39.95

VIDEO BASIC

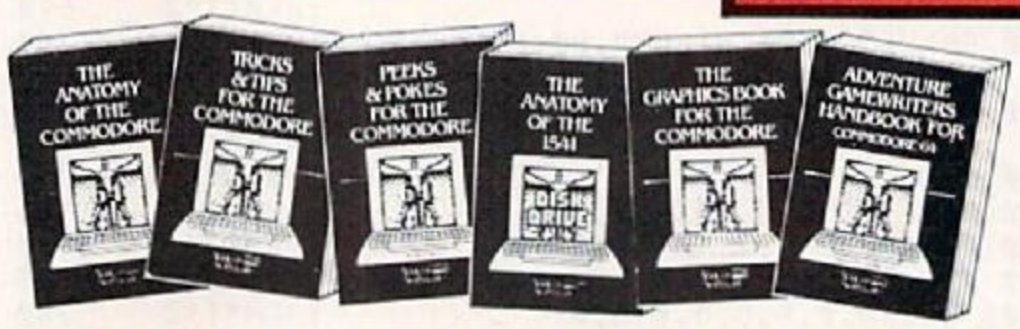
Add 50+ graphic, sound and utility commands to your programs with this super development package. Free distribution of RUNTIME version - no royalties! $39.95

XREF-128 & XREF-64

BASIC cross-reference

Indispensible tool for BASIC programmers. Finds all references to variables, constants & line numbers. Sorts in alphabetical order. C-64 $17.95
C-128 $17.95

Reference Books


THE ANATOMY OF THE COMMODORE
TRICKS & TIPS FOR THE COMMODORE
PEEKS & POKES FOR THE COMMODORE
THE ANATOMY OF THE 1541
THE GRAPHICS BOOK FOR THE COMMODORE
ADVENTURE GAMEWRITERS HANDBOOK FOR

ANATOMY OF C-64 Insider's guide to the '64 internals. Graphics, sound, I/O, kernal, memory maps, and much more. Complete commented ROM listings. 300pp $19.95

ANATOMY OF 1541 DRIVE Best handbook on this drive, expanded & updated. Filled with many examples programs and utilities. Fully commented 1541 ROM listings. 500+pp $19.95

MACHINE LANGUAGE FOR C-64 Learn 6510 code & write fast programs. Many samples and listings for complete assembler, monitor and simulator. 200pp $14.95

GRAPHICS BOOK FOR C-64 Best reference, covers basic and advanced graphics. Sprites, Hires, Multicolor, 3D-graphics, IRQ, CAD, projections, curves, more. 350pp $19.95

TRICKS & TIPS FOR C-64 Collection of easy-to-use techniques: advanced graphics, improved data input, enhanced BASIC, CP/M, data handling and more. 275pp $19.95

1541 REPAIR & MAINTENANCE Handbook on the drive's hardware. Includes schematics & techniques to keep 1541 running. Align drive w/ & w/o scope. Large handbook size. $19.95

ADVANCED MACHINE LANGUAGE Subjects not covered elsewhere: video controller, interrupts, timers, I/O, extensions to BASIC. Tips for the serious programmer. 210pp $14.95

PRINTER BOOK C-64/VIC-20 Understand Commodore, Epson compatible printers & 1520 plotter. Utilities, screen dump, 3D-plot, commented MPS-801 ROM listings. 330pp $19.95

SCIENCE/ENGINEERING ON C-64 In-depth introduction to computers in science. Some topics covered are chemistry, physics, astronomy, electronics & others. 350pp $19.95

CASSETTE BOOK C-64/VIC-20 Make your cassette run faster than a disk drive! Cassette data-base, disk to tape backup, tape to disk, FastTape operating system. 225pp $14.95

Productivity Tools

TECHNICAL ANALYSIS SYSTEM

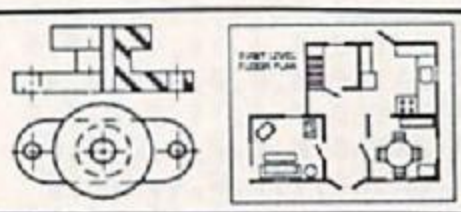
A sophisticated charting and technical analysis system for serious investors. By charting and analyzing the past history of a stock, TAS can help pinpoint trends & patterns and predict a stock's future. TAS lets you enter trading data from the keyboard or directly from online financial services. $59.95

PERSONAL PORTFOLIO MANAGER

Complete portfolio management system for the individual or professional investor. Allows investors to easily manage their portfolios, obtain up-to-the minute quotes & news, and perform selected analysis. $39.95

CADPAK

A deluxe graphics design and drawing package. Use with or without an optional lightpen to create highly-detailed designs. With dimensioning, scaling, text, rotation, object libraries, hardcopy and more. $39.95



DATAMAT

Powerful, easy-to-use data management package using menu selections. Free-form design, 50 fields/record, 2000 records/disk. Sort on multiple fields in any combination. Complete selection and formatting for printing reports. $39.95

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Authoritative Books

From Abacus Software

...a name you can count on

BOOKS COVERING THE C-128

IDEAS FOR USE ON C-64 Themes: auto expenses, calculator, recipe file, stock lists, diet planner, window advertising, others. Includes all program listings. 200pp $12.95

COMPILER BOOK C-64/C-128 All you need to know about compilers: how they work, creating your own and generating the final machine code. 300pp $19.95

Adventure Gamewriter's Handbook A step-by-step guide to designing and writing your own adventure games. Adventure game generator & four example games. 200pp $14.95

PEEKS & POKES FOR THE C-64 Includes in-depth explanations of PEEK, POKE, USR, and other BASIC commands. Learn the "inside" tricks about your 64. 200pp $14.95

OPTIONAL DISKETTES FOR BOOKS For your convenience, the programs contained in each of our books are available on diskette. All program thoroughly tested & error-free. Specify title of book when ordering. $14.95 each

C-128 INTERNALS Detailed guide presents the 128's operating system, explains the graphics chips, Memory Management Unit, and commented listing of Kernal. 500+pp $19.95

1571 INTERNALS Insiders' guide for novice and advanced users. Covers sequential & relative files, and direct access commands. Describes important DOS routines. Commented DOS listings. 500+pp $19.95

C-128 TRICKS & TIPS Chock full of info for everyone. Covers 80 column hi-res graphics, windowing, memory layout, Kernal routines, sprites and more. 300 pp $19.95

CP/M ON THE C-128 Essential guide to using CP/M on your 128. Simple explanations of the operating system, memory usage, CP/M utility programs, submit files and more. $19.95

COMPUTER AIDED DESIGN on your C-128 or 64. Create a CAD system using programs provided. Covers 3D objects & rotation, MACROS, hatching, zooming, mirroring, line widths, dashed lines, more.300 pages $19.95

Special Feature

For school or for software development, **SUPER Pascal** rivals products that run on much more expensive computers.

In addition to its extensive compiler, **SUPER Pascal** includes an easy-to-use and very complete source file editor, a very capable assembler for optionally coding in machine language routines, and a comprehensive utility package. **SUPER Pascal** uses high-precision 11-digit arithmetic and includes a much faster DOS (3X with C-64/1541). With these features, **SUPER Pascal** transforms the Commodore into a highly capable Pascal machine.

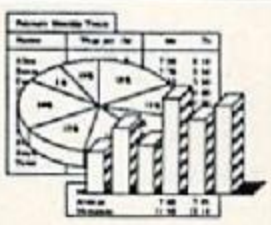
If you've been wanting to learn Pascal or to develop software using the finest tools available, **SUPER Pascal** is your first choice. Complete with 200+ page handbook.
C-64 $59.95
C-128 $59.95

XPER

Capture your information on XPER's knowledge base and let this first *expert system* for Commodore computers help you make important decisions. Large capacity. Complete with editing & reporting. $59.95

POWERPLAN

One of the most powerful spreadsheets with integrated graphics for your Commodore computer. Includes menu or keyword selections, online help screens, field protection, windowing, trig functions and more. PowerGraph lets you create integrated graphs and charts from your spreadsheet data. $39.95



QUICKCOPY V2.0

Back up your valuable data with the fastest disk copier we've seen to date. Copies an entire disk in two and a half minutes on two drives or three and a half on one. $19.95

CHARTPAK

Make professional-quality pie, bar and line charts, and graphics from your data. Includes statistical functions. Accepts data from CalcResult and MultiPlan. C-128 has 3X the resolution of the C-64 version. Outputs to most printers.
C-64 $39.95
C-128 $39.95

Ordering Information

Abacus Software

MasterCard VISA AMERICAN EXPRESS Card

P.O Box 7211 Grand Rapids, Michigan 49510

For Postage and handling include $4.00 per order. Foreign orders include $10.00 per item. Money order and checks in U.S. Dollars only. MasterCard, VISA and American Express accected. Michigan residents please include 4% sales tax.

For *fast* service call (616) 241-5510 Telex 709-101

For **free** catalog, please return this coupon or a copy to:
Abacus Software, P.O. Box 7211, Grand Rapids, MI 49510

PHONE: (616) 241-5510

Name_____
Address_____
City_____
State_____ Zip_____

Gazzette 2/86

Circle 8 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

C-128 Custom Character Sets

You're not limited to the C-128's standard characters when you can create your own—from a foreign language symbol to a lightning bolt. This article shows you how.

By ISAAC MALITZ

Have you ever wanted your C-128 to produce characters from the keyboard that are not part of the standard character set? Perhaps you've wanted Greek or Hebrew characters displayed, or maybe special symbols, such as a double arrow or a lightning bolt.

This article will show you how to program the C-128 to do just that—generate character sets of your own design. (You may be familiar with how to do this on the C-64, but the technique is somewhat different on the C-128. This article will show you clearly what the differences are.)

The Shape Table

First, you have to understand how the computer draws characters on the screen. For instance, when you press the Z key, the computer draws a Z on the screen. The letter Z possesses a certain shape, which the computer recognizes. But how?

Stored in ROM is a table of values that describes the shape of every letter in the alphabet and all other symbols used by the computer. This table is sometimes known as the "shape table." Whenever the computer wants to draw a symbol on the screen, it consults the shape table to find out that character's shape. Let's find out how the shape table works.

From the computer's point of view, every symbol is seen as a collection of dots in an 8 × 8 grid of dots, where each dot may be on or off. For example, a Z appears like this:

```
. * * * * * * *
. . . . . * * .
. . . . * * . .
. . . * * . . .
. . * * . . . .
. * * . . . . .
. * * * * * * *
. . . . . . . .
```

If you examine a Z on your screen, you may be able to see the individual dots that compose it. The pattern of dots is exactly like that depicted above.

The shape table describes for each character exactly which dots are on and which ones are off. Eight bytes are required to describe the entire grid. One byte is required to describe each row in the grid. In the above example, the eight bytes are as follows:

```
. * * * * * * *   127
. . . . . * * .     6
. . . . * * . .    12
. . . * * . . .    24
. . * * . . . .    48
. * * . . . . .    96
. * * * * * * *   127
. . . . . . . .     0
```

Each number represents the binary value of that row of dots. For instance, the binary value of

```
. * * * * * * *
```

is

```
0 + 64 + 32 + 16 + 8 + 4 + 2 + 1
```

which is equal to 127.

Illustration by Phil Geraci

RUN It Right

C-128 (in C-128 mode)

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The binary value of

```
. . . . . * * .
```

is

```
0 + 0 + 0 + 0 + 0 + 4 + 2 + 0
```

which is equal to 6.

In summary, the shape table represents the shape of the letter Z as eight codes: 127, 6, 12, 24, 48, 96, 127 and 0. These eight codes are stored as eight bytes in the shape table.

If the information in the shape table could be changed, you could define new symbols that could be produced from the keyboard. For instance, you could modify the shape table so that when you pressed the A, B and C keys, the Greek letters alpha, beta and gamma would appear.

The bad news is that the shape table cannot actually be altered. It is stored in ROM (read-only memory) and cannot be erased or changed. (If you attempt to Poke new values into ROM, nothing will happen to ROM.)

The good news is that you can set up your own shape table in a different part of memory, and then tell the computer to use your table instead of the standard shape table. You can use your own shape tables to define your own symbols. The sample programs that follow will show you how to do this.

Creating Part of a Shape Table

Enter and run this first sample program. When you press the @ key, a lightning bolt symbol will be produced on the screen.

```
1 REM LIGHTNING
100 PRINT CHR$(147)
110 FOR I = 12288 TO 12799
120 POKE I,255
130 NEXT I
200 FOR I = 12288 TO 12295
210 READ C
220 POKE I,C
230 NEXT I
300 POKE 2604, 28
400 DATA 3,6,12,30,3,6,12,24
```

The program sets up a small portion of a custom shape table, starting at location 12288 in memory. It stores data in the area of the shape table that corresponds to the @ key on your keyboard. This data describes the shape of a lightning bolt. Let's go through the program line by line to see exactly how it works:

```
100 PRINT CHR$(147)
```

Line 100 clears the screen.

```
110 FOR I = 12288 TO 12799
120 POKE I,255
130 NEXT I
```

The next three lines are used for initializing the section of memory with which you'll be working. This ensures there is no garbage in this area of memory.

```
200 FOR I = 12288 TO 12295
210 READ C
220 POKE I,C
230 NEXT I
```

This section of the program Pokes data into memory locations 12288–12295. (The data to be Poked is stored in the Data statement at the end of the program.) These eight locations are the first eight bytes of what will be your new shape table. They correspond to the @ key on your keyboard, describing, each time the @ key is pressed, what shape the computer should draw on the screen. The data you Poke into locations 12288–12295 describes the shape of a lightning bolt:

```
. . . . . * * .    3
. . . . . * * .    6
. . . . * * . .   12
. . . * * * * .   30
. . . . . * * .    3
. . . . . * * .    6
. . . . * * . .   12
. . . * * . . .   24
```

```
300 POKE 2604, 28
```

Line 300 tells the computer that the location of the shape table now starts at 12288. The purpose of this command is to tell the computer to use your new custom shape table, rather than the computer's standard shape table. (By Poking a value other than 28 into location 2604, it's possible to place your shape table at a location other than 12288. However, this will usually trigger some difficult technical problems, which are beyond the scope of this article.)

The complete shape table in ROM is 4096 bytes long. With that many bytes, it's difficult work to set up a new shape table from scratch. There are two ways of dealing with this problem.

First, you could set up only part of a complete shape table, as you did with the sample program here. You set up a new shape table, where a shape is defined for only one key on the keyboard. The rest of the shape table was left undefined. (If you press any other keys, you'll get garbage characters on the screen.)

Second, you could copy into your new shape table location all or part of the ROM shape table, which you could then use as a basis for defining your new table. (Of course, this strategy makes sense only if at least part of your new character set is similar or identical to the standard character set.) The next program will show you how to do this.

Transferring the ROM Shape Table

The program below creates an upside-down character set. That is, each time you press a key, the usual character appears on the screen upside down!

```
1 REM UPSIDE DOWN
100 PRINT CHR$(147)
200 BANK 14
210 FOR I = 0 TO 511
220 P = PEEK(53248 + I)
230 POKE 12288 + I, P
240 NEXT I
300 BANK 15
310 POKE 2604, 28
400 PRINT "A COPY OF THE STANDARD
    SHAPE TABLE"
410 PRINT "IS NOW AT 12288."
420 PRINT "NOW, LET'S PLAY WITH IT."
500 FOR I = 12288 TO 12799 STEP 8
510 FOR J = 0 TO 3
520 A = PEEK(I + J)
530 B = PEEK(I + 7 - J)
540 POKE (I + J), B
550 POKE (I + 7 - J), A
560 NEXT J
570 NEXT I
```

Enter this program and run it. The screen will clear, the program will process for about 15 seconds, then a message will appear on the screen. The program will continue to process, and you'll gradually see all the letters in the message turn upside down. After the program is finished, try pressing some keys on the keyboard. The usual characters will appear, but they'll all be upside down.

This program has two parts. The first part (lines 100–410) sets up a new shape table starting at location 12288, which is identical to the first 512 bytes of the standard shape table. A message is then displayed on the screen.

The second part of the program (lines 500–570) makes some modifications to your new shape table, the effect of which is to turn each character shape upside down.

Now, let's go through the program in more detail.

```
200 BANK 14
210 FOR I = 0 TO 511
220 P = PEEK(53248 + I)
230 POKE 12288 + I, P
240 NEXT I
```

Lines 200–240 copy data from the standard shape table into the loca-

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Jet

A New Dimension in Fun

Easy aircraft control, coupled with unexcelled omnidirectional visual (plus audio) references and ballistic power, provide the speed and aerobatic maneuverability that add up to pure fun. Engage in a wide variety of combat scenarios (land-based F-16 or carrier-based F-18), or fly over detailed United States scenery at Mach 2.

Flight Simulator Scenery Disk Compatible

subLOGIC Corporation
713 Edgebrook Drive
Champaign IL 61820
(217) 359-8482 Telex: 206995

Order Line: (800) 637-4983
(except in Illinois, Alaska, and Hawaii)

Circle 40 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 57 on Reader Service card.

http://www.oldgamesitalia.net/

COMMODORE ACCESSORIES

CUSTOM COMMODORE CHIPS
for VIC-20, C-64 and C-128 Personal Computers

Part No.	Description	Price	Part No.	Description	Price	Part No.	Description	Price
*6510	CPU	$19.95	*6526	CIA	$25.95	*6581	SID	$32.95
*6525	TPI	$20.95	*6560	VIC-I	$29.95	82S100PLA	PLA	$37.95
*SPECS. AVAILABLE @ $1.50 EA.			*6567	VIC-II	$44.95	NOTE: 82S100 = U17 (C-64)		

VOICE SYNTHESIZER FOR COMMODORE VIC-20 & C-64

• Over 250 word vocabulary-affixes allow the formation of more than 500 words • Built-in amplifier, speaker, volume control, and audio jack • Recreates a clear, natural male voice • Plug-in user ready with documentation and sample software • Case size: 7¼"L x 3¾"W x 1⅝"H

Applications: • Security Warning • Telecommunication • Teaching • Handicap Aid • Instrumentation • Games

Part No.	Description	Price
JE520CM	For VIC-20 and C-64	$99.95
JE521TS	Text-to-Speech Program	$ 9.95
JE521	For C-64 or VIC-20 (5¼" Disk) Commodore Interface Module	$19.95

RS232 ADAPTER FOR VIC-20 AND COMMODORE 64

RS232 Interface

The JE232CM allows connection of standard serial RS232 printers, modems, etc. to your VIC-20 and C-64. A 4-pole switch allows the inversion of the 4 control lines. Complete installation and operation instructions included.
• Plugs into User Port • Provides Standard RS232 signal levels • Uses 6 signals (Transmit, Receive, Clear to Send, Request to Send, Data Terminal Ready, Data Set Ready).
JE232CM. $39.95

Additional Commodore Add-Ons

300 Baud Modem for C-64
Mitey-Mo. $74.95

Parallel Printer Interface for VIC-20, C-64 & C-128
MW350. . . . . $69.95

Gen. Purpose Input/Output Card for C-64 & C-128
MW-611. . . . . $199.95

$20.00 Minimum Order — U.S. Funds Only
California Residents Add 6% or 6½% Sales Tax
Shipping — Add 5% plus $1.50 Insurance
Send S.A.S.E. for Quarterly Sales Flyer!

Mail Order Electronics Worldwide
Jameco ELECTRONICS

Spec Sheets — 30¢ each
Send $1.00 Postage for your *FREE 1986 JAMECO CATALOG*
Prices Subject to Change

MasterCard VISA

1355 SHOREWAY ROAD, BELMONT, CA 94002
Phone Orders Welcome (415) 592-8097 Telex: 176043

2/86

THE SMART WAY TO SAVE YOUR *RUN*

You'll find all your favorite issues of **RUN** in minutes—and in great condition—with smart-looking binders or file cases from Jesse Jones.

Sturdy, protective file cases make for easy access to each issue, while rugged binders allow magazines to lay flat for easy reference. Both hold 12 issues, are custom-designed in brown with gold spine lettering, and are **unconditionally guaranteed.**

Order today!
File Cases: $6.95 ea.; 3/$20; 6/$36.
Binders: $8.50 ea.; 3/$24.75; 6/$48.

YES! Please send me protection for my **RUN**:

_____ File Cases _____ Binders

I enclose my check or money order for $_____.

Name _____

Address _____

City _____ State _____ Zip _____

US currency only. Outside US, add $2.50 per item for postage and handling. Please allow 4-6 weeks for delivery.

MAIL TO:
Jesse Jones Box Corp.
PO Box 5120-Dept. RUN
Philadelphia, PA 19141

tion that will hold your new shape table.

Normally, the standard shape table is inaccessible; it lies in an area of memory that cannot be reached by the Peek command. To access it, you need to use the Bank command, which allows you to reach portions of memory that are not ordinarily addressable.

BANK 14 makes the shape table accessible, starting at location 53248. Once it is made accessible, you use a For. . . Next loop to copy the table's first 512 bytes to a new location, which starts at 12288.

Following this, you issue a BANK 15 command to restore memory to its normal configuration (BANK 15 is the default memory configuration for the C-128). A POKE 2604, 28 tells the computer that you are now using the shape table starting at 12288.

The next part of the program (lines 500–570) modifies the shape table. If you study the code carefully, you'll see that it reverses the order of every group of eight bytes. That is, the first eight bytes of the table are initially:

60,102,110,110,96,98,60,0

(This represents the "at" character.) When the program is finished, these eight bytes are reversed:

0,60,98,96,110,110,102,60

The result is an upside-down "at" symbol. The following grids show you why:

```
. . * * * * . .   60
. * * . . * * .  102
. * * . * * * .  110
. * * . * * * .  110
. * * . . . . .   96
. * * . . . * .   98
. . * * * * . .   60
. . . . . . . .    0

. . . . . . . .    0
. . * * * * . .   60
. * * . . . * .   98
. * * . . . . .   96
. * * . * * * .  110
. * * . * * * .  110
. * * . . * * .  102
. . * * * * . .   60
```

This completes our discussion of custom character sets. Now, if you want to create your own character sets, the sample programs in this article should provide a reliable basis for your own programs. R

Address all author correspondence to Isaac Malitz, 1661 Roscomare Road, Los Angeles, CA 90077.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Another Great Simulation from Sid Meier – Author of F-15 Strike Eagle

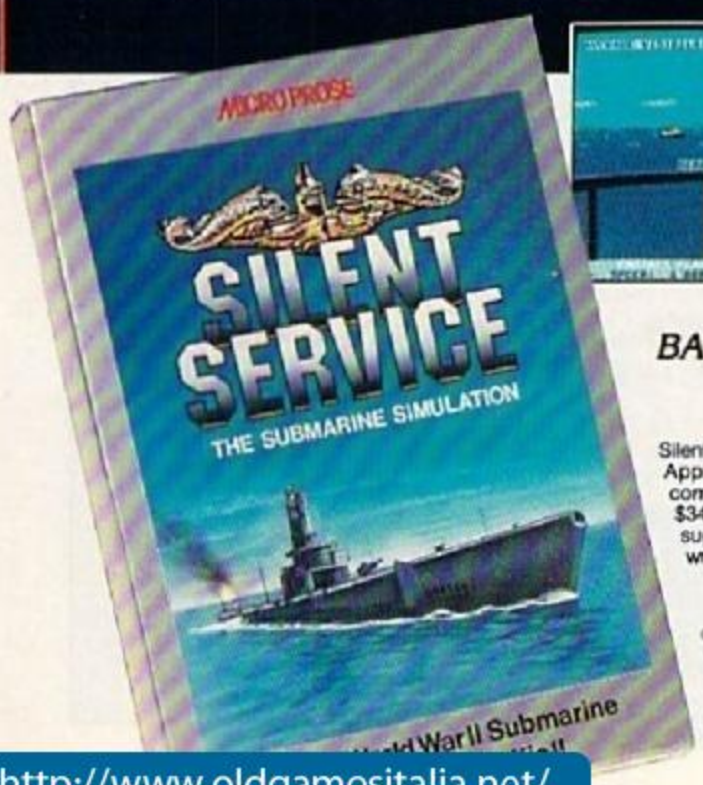
Now he takes you from the cold, thin air and limitless space of F-15 Strike Eagle down into the dark depths of the Pacific Ocean inside an American World War II submarine for a realistic, action-filled simulation —

SILENT SERVICE

Thrill to the initial sighting of the enemy's strike force in your periscope as their ships come into your range. But watch out — the enemy's escorts have just sighted you. You're the **hunter** — but suddenly — you've become the **hunted!**

As Commander, you must sink their ships and keep your submarine from being destroyed — if you can. Will you select a quiet patrol sector in the Marianas Islands or choose the dangerous waters off the coast of Japan? Is a submerged daylight periscope attack best or do you charge in on the surface at night using only radar bearings to guide you? Do you fire a spread of your precious torpedoes or can you close the range and pick off the enemy with a single torpedo shot? These decisions and many more are yours to make as you take your place among the elite ranks of the **SILENT SERVICE!**

It's **exciting** — and it's **fun.** It's another great Micro Prose simulation — and it's called **SILENT SERVICE.** Look for it now on your dealer's shelves.



FIVE AUTHENTIC BATTLE STATION SCREENS

Silent Service is available for Commodore 64/128, Apple II Family, Atari XL/XE, IBM PC/PC Jr. computers for a suggested retail of only $34.95. Available soon for Macintosh for a suggested retail of only $39.95. Call or write for more information or MC/VISA orders.

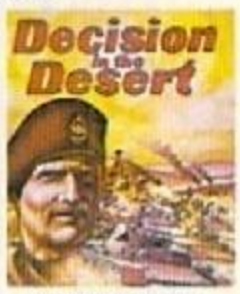
COMMODORE, APPLE, ATARI, IBM, and MACINTOSH, are registered trademarks of Commodore Business Inc., Apple Computer Inc., Atari Inc., and International Business Machines Inc., respectively.

Photo courtesy Baltimore Maritime Museum

Try These Other Real Life Simulations

Daring Attack Helicopter Action in the AH-64 Apache!

Thrilling Decathelon of aerobatic events in your own personal jet!



You are in command — North Africa 1940-1942

MICRO PROSE
SIMULATION • SOFTWARE

120 LAKEFRONT DRIVE • HUNT VALLEY, MD 21030 • (301) 667-1151

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

"My purchase of RUN *is a better investment than my computer—I get a much higher return on a much smaller investment!"—*

D. Suggs, Tallahassee, Fla.

Join the thousands of C-64, Plus/4, and VIC-20 users around the world who enjoy subscribing to **RUN** every month. They've found **RUN** to be an unrivaled Commodore resource. And they're right—**RUN** is one of the fastest-growing Commodore magazines on earth!

The convenience of personal delivery, plus a savings of **44% off** the newsstand price are yours when you subscribe to **RUN**—the year-round Commodore companion.

You get **12 great issues for just $19.97,** plus special announcements and offers available only to **RUN** subscribers!

Each month, you'll learn the fun of computing while exploring the limitless possibilities of your Commodore.

Here's what satisfied readers are saying:

"I read many magazines after I bought my 64, but I think that yours is the best. I now have a subscription and look forward to every new issue."—Eric D. Stolen, Manistee, MI

"In a remarkably short time, **RUN** has become the best journal for Commodore computer users...I appreciate the coverage you devote to reader comments and questions (Magic, Mail RUN, and Commodore Clinic), as there is nearly always an interesting hint or tip in one of these columns!"—J. O'Hare, Victoria, B.C. Canada.

Throughout the year, you'll find:

- Exciting tips, Commodore tricks, and programming ideas in **RUN**'s most popular column, "Magic".
- Challenging, fun, and educational software.
- A rundown of the products best suited for the new C-16 and Plus/4.

The benefits roll on...time-saving programming ideas, no-punches-pulled product reviews, applications to broaden your computing horizon, tutorials and assistance from reknowned authors in the Commodore field, and of course, great ideas and tricks that have worked for fellow Commodore users.

Act today—and **save 44%**—joining the thousands of subscribers who've found that **RUN** is their best computing companion. Just send in the coupon or insert card, or call **TOLL-FREE 1-800-258-5473**. In NH, dial 1-924-9471.

Commodore 64, VIC-20 and PLUS/4 are registered trademarks of Commodore Business Machines, Inc.

YES! I want to make a great investment.

Send me 12 issues of **RUN** for the low subscription price of $19.97. I'll save 44% off the newsstand price.

☐ Payment enclosed ☐ Bill me

Name _____

Address _____

City _____ State _____ Zip _____

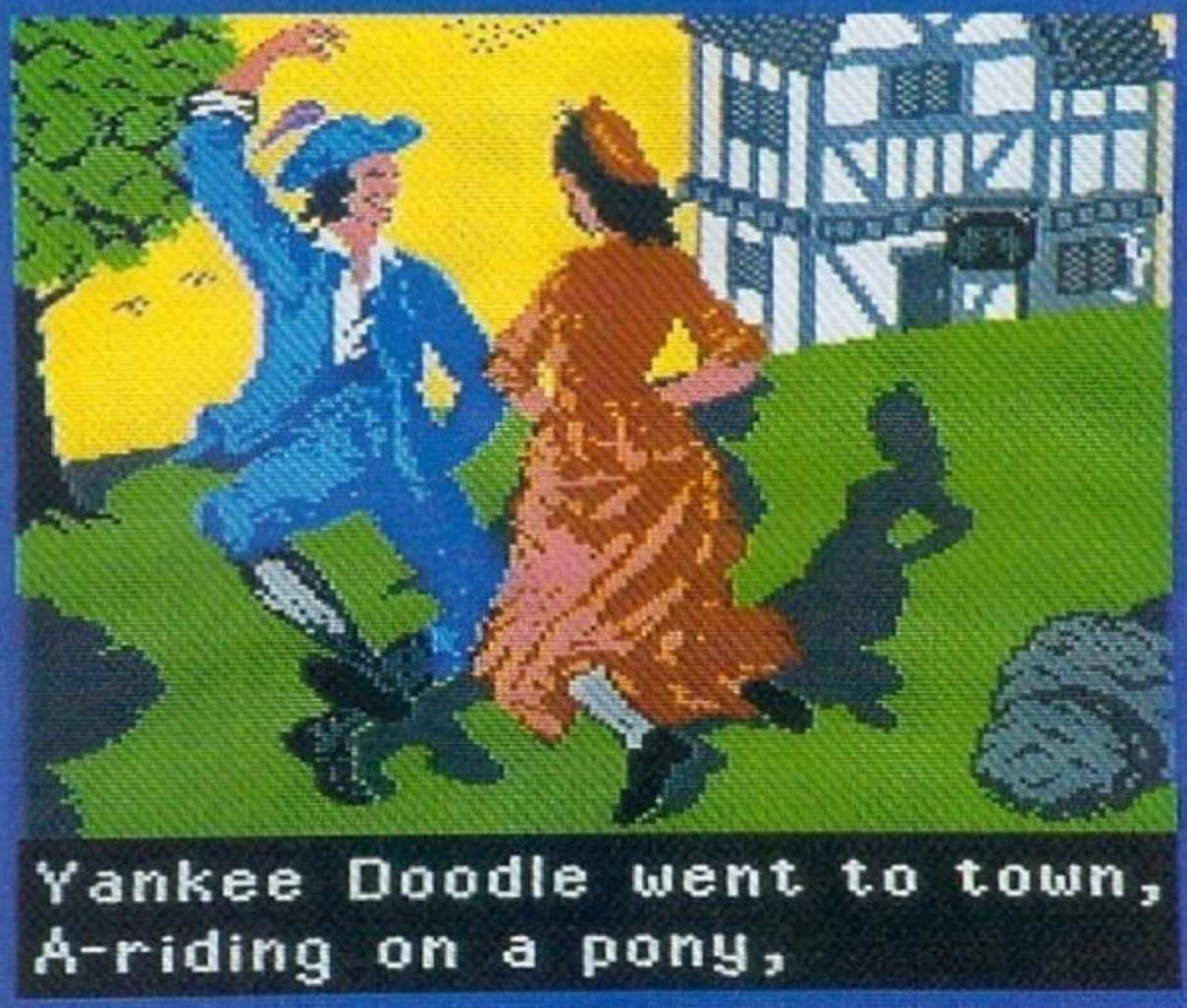
Canada & Mexico $22.97; Foreign Surface $39.97, 1 year only, US funds drawn on US bank. Foreign airmail, please inquire. Please allow 6 to 8 weeks for delivery.

RUN • Box 954 • Farmingdale, NY 11737 362B3

RUN

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Sing Along With Your Favorite Party Songs

Here's a great new way for you and your friends to have fun with your Commodore 64™ or 128™. Our exciting Party Songs disk features 18 classics you'll love to sing. They are loaded with humor and nostalgia—just right for when friends get together.

For sing-along fun, the lyrics appear in easy-to-read verse on your TV or monitor. Play just your favorite song or set your computer to play them all.

If you've seen our Christmas Carols, then you know Party Songs will be a treat. Your computer's vast musical capabilities are used to their fullest to create lively music in three-part harmony. The colorful and entertaining graphics make every song a visual delight.

SONGS INCLUDE:

- Auld Lang Syne • I've Been Workin' on the Railroad
- Oh My Darling Clementine • Blow the Man Down
- For He's a Jolly Good Fellow • Bill Groggin's Goat
- Hail! Hail! The Gang's All Here! • My Wild Irish Rose
- My Old Kentucky Home • Turkey in the Straw
- My Bonnie Lies Over the Ocean • Goober Peas
- Red River Valley • Oh! Susanna • Dixie
- The Yellow Rose of Texas • Yankee Doodle
- Who Threw the Overalls in Mistress Murphy's Chowder?

For fun throughout the Christmas holidays, order our Christmas Carols, too! The disk contains 18 favorites, including O Come All Ye Faithful, Joy to the World, Jingle Bells, Silent Night, What Child is This?, and more.

As always, you can trust John Henry Software to bring you quality software at the lowest price. We specialize in prompt delivery and guarantee our product.

Don't wait, see your dealer, or call us today!
Toll-free number:

1-800-223-2314
In Ohio call 513-898-7660

$15.95 each

Both for only $28.95

Please send me:
_____ Party Songs disk(s) at $15.95 each
_____ Christmas Carols disk(s) at $15.95 each
_____ Christmas Carols and Party Songs at $28.95

Add $1.00 for postage and handling. Ohio residents add 6% sales tax. Foreign orders, except Canada and APO, add $3.00 for Air Mail. Please pay in U.S. funds.

☐ Check or money order enclosed ☐ Visa ☐ MasterCard

Acct. # _____ Exp. Date _____

Name _____

Address _____

City _____ State _____ Zip _____

Send to John Henry Software, P.O. Box 745, Vandalia, Ohio 45377

John Henry Software

QUALITY IS OUR STRENGTH

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Telecomm

On-line with Medical Services

By MARGARET MORABITO

Are you wondering why you're feeling so tired all the time or why your headaches are becoming more frequent? The answers to these and many other questions you might have about your personal and family health are available on-line.

Dozens of medical services and databases are offered on the major on-line utilities, such as Delphi, The Source, CompuServe, the Dow Jones News/Retrieval, BRS and the Knowledge Index. Most of them have at least one section devoted to health and medical information. The major networks are not a substitute for an actual visit with your personal doctor, of course, but they do provide a valuable source of information on a wide range of medical topics.

Who benefits from on-line medical information? The general public, for one. Anyone who has an interest in health and medical issues will find something of value on-line. You don't have to be in the medical profession to participate in these various medical groups. You can locate current information from medical databases and participate in forum discussions with medical experts and other interested people, and you can leave questions for the experts to answer on-line. Any questions that you pose will be answered by physicians in the appropriate specialty area.

These on-line medical services make instant house calls. They provide professional advice, extensive information and the opportunity to ask questions and share concerns about any health-related topic.

Students and researchers are also addressed by these services. Medical journals and reference materials are available for previewing and downloading into your computer. While on-line, you can gather lists of references to medical journals and, in some cases, read entire articles on medical topics. You can also download them or order hard copies to be mailed to you.

Professionals themselves are on-line. Doctors, nurses, pharmacists, counselors, therapists and others involved in the medical professions participate in setting up these services and in the discussions and question and answer sections. These professionals continually update the information in the various databases.

Administrative personnel can also benefit from on-line medical special-interest groups (SIGs). There is plenty of advice on how to most effectively computerize the medical office and hospital.

CompuServe is one general-interest network that is particularly rich in medical information, with ten sections devoted to physical and mental health issues. These provide a wide range of information for any kind of user, whether family, individual, health-care professional, computer consultant, programmer or medical administrator. When you log on to CompuServe, just type Go Medical, and you'll be given the menu of choices for the various medical services and databases.

Computers in Medicine

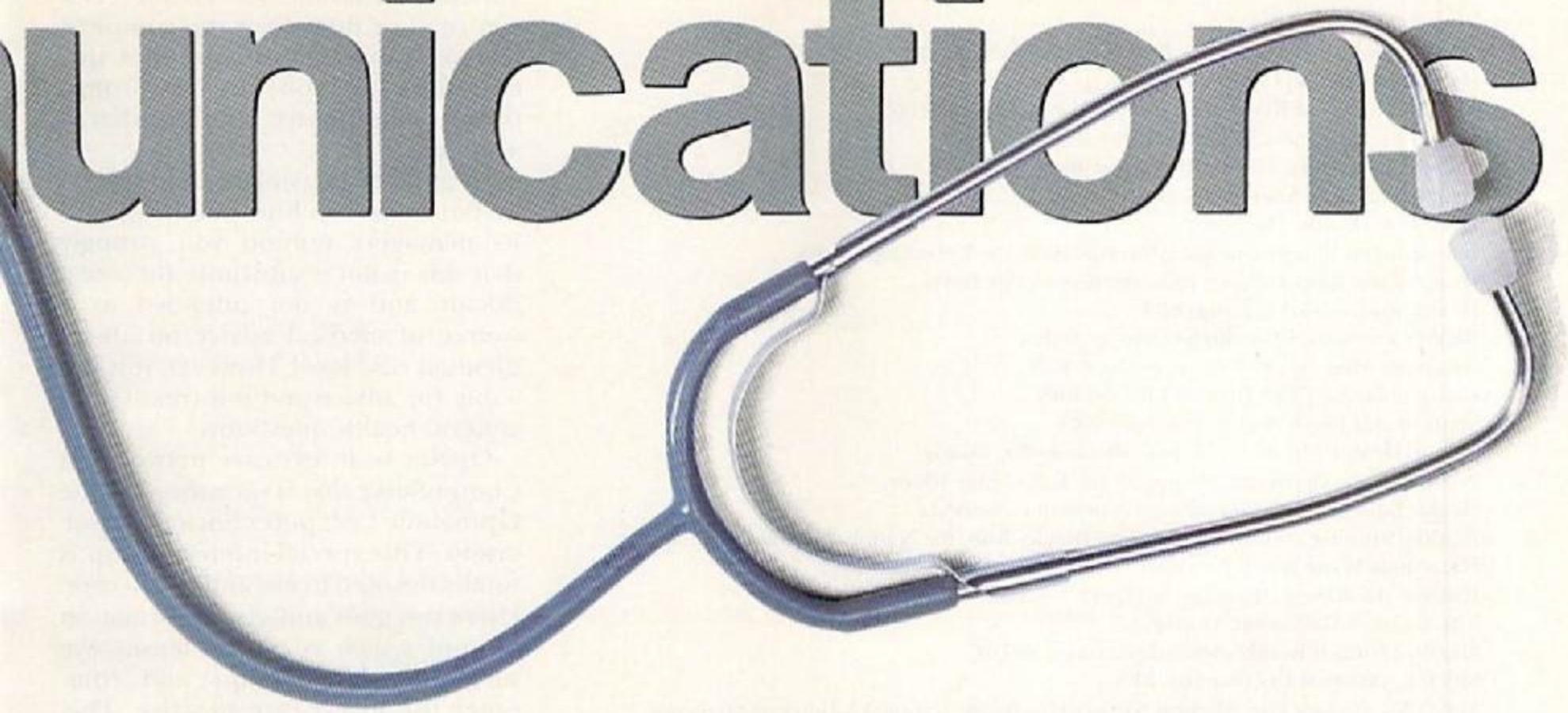
The American Association for Medical Systems and Informatics (AAMSI) Communications Network

Photograph by Ed Judice

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

unications



is one of these medical services. It is open to anyone interested in computers in medicine. The *AAMSI Medical Network* is published quarterly, and members receive the network's monthly "Medicine and Computer" newsletter.

This newsletter contains medical journal abstracts, book reviews, vendor information and an index of current journals covering computers in medicine.

This network serves the medical profession and those who need information concerning the use of computers in hospitals and medical practices. Information about computer applications in medicine is available, new hardware and software are reviewed, and the Association holds two national meetings yearly.

AAMSI has a special-interest group, called MedSIG, which consists of volunteers—professionals and others from the general public—whose goal is to develop and share information in the area of medical computing. The SIG is composed of physicians, dentists, nurses, physical therapists, hospital administrators, medical research scientists and others.

Professional specialty groups are an important element of MedSIG. Through these specialty groups, people of similar interests within the broad field of medicine can gather and focus on particular needs and questions. Database topics include consumer health, professional topics, hardware and software interests and medical students' information.

Another active medical group on CompuServe is the Micro MD Network. This is similar to AAMSI in that it provides a focus on the utilization of microcomputers in the health-care professions. Micro MD serves not only health professionals, but also educators, corporate executives, programmers and computer consultants who are interested in computers in medicine.

Micro MD has a database filled with 300 software and hardware products for the medical and health-care field. Topics covered include medical accounting, health appraisal, hospital information systems, education, diet and nutrition, psychiatry and psychology.

Other areas addressed are word processing, database software, clinical and business applications, statistics, graphics, telecommunications, languages and laboratory applications. Here, you can see what is available and receive a description of the product and its intended application in the medical field. You can take advantage of the SIG's feedback feature for asking questions about any of the products that you see listed.

Consultant's Corner is a section of Micro MD that provides lists of computer consultants who can be contacted for advice on how to implement computerization in hospitals and private practices. Resumes form a key component of this list.

There is also a monthly newsletter that provides reviews of medical software, articles from contributors, user's group news, tips on using the on-line network, and more. Also, you can join the Medical Software Club and get discounts on medical software purchases.

Micro MD is planning to provide two new services. A resume service for health-care professionals is being created. This will provide job listings from major hospitals, clinics and agencies, and you will be able to send your resumes directly to the employers who have job openings. Also, there will be a Medical-Legal database. This will hold a list of resources for professionals who need expert witnesses and legal counsel.

Women's Health Care

The American College of Obstetricians and Gynecologists (ACOG) and its Nurses' Association (NAACOG) are two national health-care organizations whose combined membership consists of over 40,000 health-care professionals.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Medical and Drug Reference: Dow Jones News/Retrieval
HealthNet: Delphi, CompuServe
Medline: BRS, the Knowledge Index, Dialog, CompuServe
Health Planning and Administration: BRS
Nursing and Allied Health Literature: BRS
Health Tips: The Source
Science & Health: The Source
International Pharmaceutical Abstracts: BRS, the Knowledge Index
Drug Information Fulltext: BRS, the Knowledge Index
Health Audiovisual Catalog: BRS
BIOSIS Previews: BRS, the Knowledge Index
American Men and Women in Science: BRS
Comprehensive Core Medical Library: BRS
Medical and Psychological Previews: BRS
Mental Health Abstracts: the Knowledge Index, Dialog
PsycINFO (Psychological Abstracts): the Knowledge Index
Health Benefit Cost Containment Newsletter: NewsNet
Health Planning and Administration: Dialog, BRS, the National Library of Medicine
Hazardous Waste News: NewsNet
Histline (History of Medicine On-Line): National Library of Medicine
Life Sciences Collection: Dialog
MEDIC (Finnish health/science literature): MEDIC
MEDOC (Medical Documents): BRS
MeSH Vocabulary File (Medical Subject Headings): National Library of Medicine
NISH (National Information Sources on the Handicapped): BRS
Nutrition Analysis System: Honeywell Datanetwork

Table 1. *Some of the many on-line medical services and databases available to personal computer owners. This is not a complete list of networks holding medical services; it is intended only as a sample of the offerings available on the networks mentioned.*

The ACOG Resource Center is an on-line group that is open to ACOG and NAACOG members, the general public and other interested health-care professionals. The Center's goal is to keep the public aware of ACOG's services, to promote continuing education for its members, to promote consumer-health information and to provide an arena for communication among professionals and the public on the topic of women's health care.

Features available on ACOG include obstetrical/gynecological national data, consumer health and medical practice guidelines; also, continuing medical education, women's health questions and answers, library resources and information on office computers. There is an on-line newsletter, as well.

General Health Care

HealthNet is another popular on-line health center for the general public. You can read current information on various health topics in the HealthNet Newsletter section. In HouseCalls, you can leave a question for a medical professional to answer. All answers are given by licensed and qualified specialist physicians.

There are two areas within HouseCalls. In Current Questions and Answers, you can read questions submitted by other HealthNet users and read the answers provided by the panels of specialty physicians. In Ask HealthNet, you can ask your own questions, which will be answered in the Current Q & A section. Not every question is answered; only those questions of broad interest, special relevance and other general appeal are selected.

HealthNet provides HealthQuiz, which tests your knowledge about general medical topics. The quizzes feature multiple-choice questions and show your score as well as provide a discussion of the answers. Questions are continually changed, thus making this section a good learning tool.

Furthermore, HealthNet has a reference library, which is open to all. The HealthNet Reference Library is a large collection of information on diseases, drugs, symptoms, first aid, sports medicine and other medical topics. It is updated regularly and is aimed at the non-medical reader. You can read or download the complete text version of all articles on a specific topic, or you can just browse through the library and see what is available.

HealthNet is available on several of the major on-line networks, and its managers remind you strongly that this is not a substitute for a real doctor and is not intended as a source of medical advice on an individual case level. However, it is valuable for advice and information on general health questions.

OpNet is an eye-care network on CompuServe that is sponsored by the Opthalmic Computer Society of Colorado. This special-interest group is totally devoted to eye and vision care. Users can gain and give information on topics such as contact lenses, eye surgery, vision therapy and computer use in eye-care practice. This SIG is open to the general public as well as interested eye-care specialists.

PaperChase offers Medline, the National Library of Medicine database provided by Beth Israel Hospital in Boston. Medline is updated monthly and has over 2,700,000 references from 3400 biomedical journals, ranging in date from January 1975 to the present. You use Medline to search for lists of medical references on a particular topic. These references hold the subject heading, subheadings, author's name, journal title and year and language of publication. Medline is available on several on-line networks.

The Health Forum is another section available to both the public and medical professionals. It is a gathering place for all interested parties to discuss health-related topics such as nutrition, mental health, child care and sexuality. The forum contains information about current topics of interest and has a Rare Disease database.

The Rare Disease database is sponsored by the National Organization for Rare Diseases, Inc. (NORD), which is a non-profit, voluntary health agency specifically aimed at helping people who suffer from rare diseases. In this database, you can search by keywords for references to your disease within the biomedical journals present in the forum.

Human Sexuality

On a different note, the Human Sexuality and Support Group Forum (HSX) on CompuServe provides ad-

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

vice and information on problems and questions concerning human sexuality. This is aimed primarily at families and individuals, rather than at medical professionals. This SIG features findings from a new branch of health care called sexual medicine, which draws its information from the areas of urology, gynecology, psychiatry, pharmacology, endocrinology and others.

HSX gives the public a direct line to authorities in the medical field who are dealing with a wide range of related topics. The publishers and editors of HSX are Howard and Martha Lewis, authors of several books and many magazine articles.

The forum is composed of transcripts of discussions responding to readers' questions about various topics of interest; transcripts of interviews with experts on a variety of subjects; reader comments; support groups and conferences; data libraries; on-line quizzes and interactive games; and personal mail to the managers.

Stay Informed

The subject of health care and medicine affects all of us on a daily basis. The on-line networks provide a huge amount of research information, as well as avenues for personal interaction with physicians and psychologists in all areas of medicine. This wealth of opportunity for research, study and advice is invaluable.

If you have a question that has been concerning you, but hasn't been serious enough for you to actually take to your doctor, you could very easily allay your concern by logging on and asking your question or performing your own research on the topic.

See the accompanying table, which lists a variety of on-line medical databases and the networks in which they are located.

RUN will continue its regular coverage of telecommunications next month under a new format. We will begin a new question-and-answer series, which will deal with your questions about modems, terminal software and other telecommunications topics. R

Address all author correspondence to Margaret Morabito, c/o RUN *editorial, 80 Pine St., Peterborough, NH 03458.*

University Microfilms International

Please send additional information for _____ (Name of Publication)

Name _____

Institution _____

Street _____

City _____

State _____ Zip _____

300 North Zeeb Road, Dept P.R., Ann Arbor, MI 48106

This Publication is available in Microform.

Circle 116 on Reader Service card.

TEAM-MATE: THE SINGLE SOLUTION TO THE CLUTTER THAT CAN TIE UP YOUR DESK

When you buy TEAM-MATE, you receive an integrated software system — word processing, file management, spreadsheet and graphics — for the same price you would normally pay for one program. The beauty of integration is the ability to go from one program to another instantly with no loss of screen information. No more lengthy program loads with various disks. No time lost in creating data transfer files. Now you can concentrate on solving problems again and again.

With all the information available simultaneously, you can view the spreadsheet while analyzing it in the word processor. You have total freedom to design reports and forms, which will use all or part of the data stored in the file manager. And because the print preview mode works with the integrated data, you can view where this information will be printed on the form, letter, or label.

So if you need only one great piece of software, buy TEAM-MATE. It's like buying one piece of software and getting three others free. For the C-64™ C-128™ and Atari™

For more information on where to buy Tri Micro software 714-832-6707

TRI MICRO

14072 Stratton Way, Santa Ana, CA 92705

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Answering Attack Phone

Let's vanquish the problem of bulky complicated answering machines. And let's conquer the problem of lost beepers. Now when you're out, just the sound of your voice is all you need to retrieve your messages.

Stamp out beepers. Here's a microprocessor controlled answering machine that's so smart it will give you your messages without using a beeper.

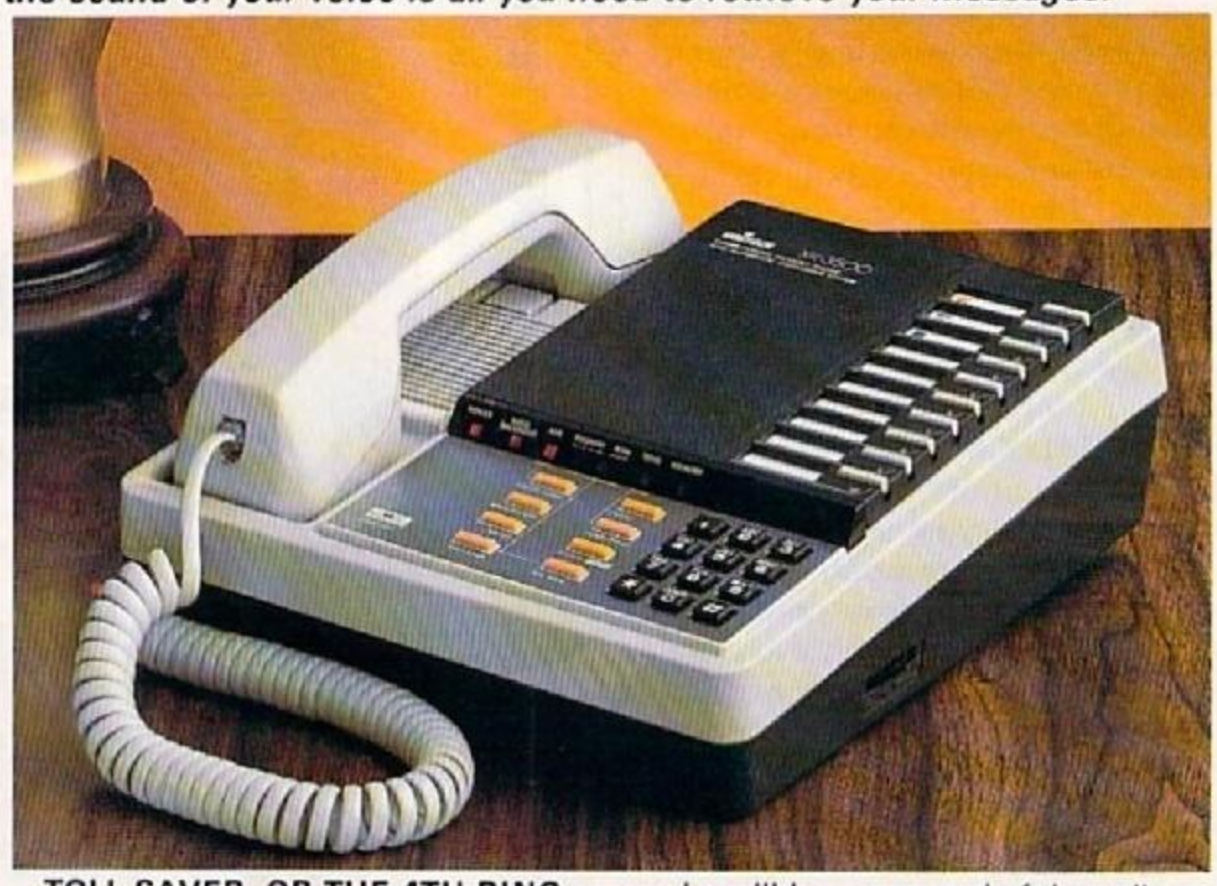
But, before we explore just how easy it is to use and all of its sophisticated features, such as, toll saver, 2-way record, and remote saving or erasing of messages, let's take a look at the phone.

Like the answering machine, the phone has attacked wasted motion, complicated commands and uncomfortable fit with the latest in technology.

Here's a phone that will dial any of your 10 most frequently called numbers with the touch of a single button. Just touch another electronic button and the phone will operate in Tone or Pulse.

Another button gives you instant redial. And, as for comfort, well just wait till you cradle the great sounding Phone Company style handset on your shoulder.

This phone which can be desk or wall mounted, is no larger than a conventional feature phone. It's just 9" deep and 8½" wide. And, a standard instantly changeable audio cassette (included) is concealed just to the right of the handset.



VANQUISH THE REST

Easy to use. Forget cumbersome 'fixed time' outgoing announcements. Most machines make you fill a 20 second continuous loop cassette.

If you've ever tried to do this, you know just what a pain it is to make your message just the right length. With the Attack Answerer, just push 'Record Announcement' and talk into the built-in microphone from 2 seconds to 50 seconds.

After you've recorded your announcement, the machine will automatically play it back for your approval.

When you get your first call, it will be answered on the 4th ring. (Read on to see why.) If you're at home, you'll hear the message being left by the caller over the built-in speaker if you desire.

If you wish to talk to the person, just pick up the receiver and start talking. If you don't, you've just experienced the **privacy protection** called 'call screening', which lets you hear who's calling before you decide to answer.

This machine will let your caller leave any length message up to one minute long. If they hang up in 20 seconds, that's how long the message will be.

If they don't choose to leave a message, the machine will ignore the call. So, when you play back your messages, all you'll hear are messages, no dead space. And of course, you won't have to listen to your own announcement between each message you receive.

TOLL SAVER, OR THE 4TH RING

If you're across town or out of town, why invest a dime or pay for a toll call if you have no messages?

Each time you reset your machine, it will answer the first call on the 4th ring. After it's taken its first message, it automatically starts answering on the second ring. So, when you call in, just hang up if you get to the third ring. You'll automatically know that you have no messages.

If you do have messages, just give the machine a special signal with **your own voice**, and you'll receive your messages. Then you can have the machine save or erase the messages that you have heard.

MISSILE GUIDANCE

This machine is so smart that it electronically marks each message's location. It knows precisely where your outgoing announcement as well as each message that has been left is located.

The action is fascinating to watch. First, it plays your outgoing announcement. Then, it sounds a tone as it zips to the end of the last message it took.

It then beeps and starts taking the new message. Finally, it rewinds back to the precise start of your outgoing announcement, prepared to start again.

MORE SMARTS

If you want to record both sides of a call, just touch the 2-way record button and you'll have a record of the call.

Everything is automated. Just touch one of the full logic controlled buttons and this computer answers with a confirming beep and jumps into action.

To play back messages at home, just touch the 'Message Report' Button. A flashing message light even tells you at a glance if you've received any messages while you were out.

EASY INSTALLATION

Just plug in the modular phone jack and the included AC adaptor. Then, just record your announcement.

The Answerer Attack Phone is ready to take messages or act as your super automated office or home telephone. It's made by Unitech and backed by their standard limited warranty.

THE ANSWERER ATTACK PHONE RISK FREE

It's new. And, it will set you free. From its Phone Company feel handset to its electronic convenience extras to its state of the art answerer, you'll have incredible convenience and simply great sound.

If you're not 100% thrilled, simply return it to DAK within 30 days in its original box for a courteous refund.

To order your Unitech Answerer Attack Phone with totally automated telephone features and easy to use answering machine risk free with your credit card, call toll free or send your check for DAK's breakthrough price of just **$99** plus **$7** P&H. Order No. 4359. CA res add tax.

Wait till you hear the phone. Wait till you use the 1 touch dialing. And, wait till you hear the sound quality and enjoy the convenience of this answering machine.

DAK
INDUSTRIES INCORPORATED

TOLL-FREE ORDER LINE
For credit card orders call 24 hours a day 7 days a week
CALL TOLL-FREE. . .1-800-325-0800
8200 Remmet Ave., Canoga Park, CA 91304

RN33

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A Rose By Any Other Name

It's the sweetest phone that this writer has ever used. From its elegant good looks to its elegant sounding speakerphone, it's a class act. And, it remembers and dials up to 200 numbers by THE NAME of the person you want to call. Plus you can use it on 1 or 2 lines.

By Drew Kaplan

It's not red. And it has no aroma. But not only is it not just a rose amongst the thorns, Mura's all new name dialing 2-line conferencing speakerphone is the rose amongst roses.

As president of DAK, I've tested hundreds of phones. Some are very good and you will find them in DAK's catalog. **But, I've never used a better sounding, more useful phone, at home or at the office, than the phone pictured above.** Let me tell you some of the reasons why.

FIRST, IT DIALS BY NAME

I hate having to remember phone numbers. With this phone, all I do is push the 'H' button when I want to dial Home. The 'M' button dials Mura (this phone's manufacturer). And, the 'I' button dials my insurance broker. **It's really great at home.**

Where I have more than one name that begins with the same letter, I can scroll through the names before it dials, or enter just the first 3 letters. So, if I want to dial Howard instead of home, I push 'H', 'O', 'W'.

It's quick, it's easy and you'll never have to remember or look up and dial anyone's number again. Each memory location can hold up to 32 digits and you can store up to 200 different names. It has a memory capacity of 4096 digits.

You can store your Sprint and MCI codes with the person's name, in a separate location that the phone automatically accesses as it dials, or totally separately so that you can automatically access the service and then dial a number manually.

And speaking of manual dialing, you don't even have to push the speakerphone button to dial. When you touch the first number, the phone automatically seizes the line, turns on its speaker, and you have on-hook dialing.

So, you never have to lift the receiver or activate the speakerphone unless someone answers the line.

FORGOTTEN HANDSET

This phone has the latest K2 handset. It gives you traditional Phone Company fit and feel, yet, I find it even more comfortable to use.

But, you'll probably never use it. The speakerphone is so powerful, so clean, and so easy to use, you'll never pick up the handset unless you need privacy.

I've used good speakerphones before, but this speakerphone's sound quality rivals an in-person conversation, not a phone call. How's that for a description of a phone you can try on a 30 day risk free trial?

2-LINE MASTERPIECE

This is a two-line phone, but even if you only have one line, I'd plug it in and forget about its two-line capabilities.

You can select Line 1 or Line 2. And, you can push Conference to combine both lines for convenient business conferences or friendly group calls with friends. There are LEDs that show which line is 'In Use', 'On Hold', or which line is 'Ringing'. And, there are different rings for each line.

Installation is a breeze. It simply plugs into one standard modular 2 line jack or two modular 1 line jacks. Nothing could be simpler.

PAGES OF HELPFUL FEATURES

The list of features would have to be microfilmed to fit on this page. There's a large LCD display that shows you the name you want to call and the number.

An automatic timer tells you exactly how long you've been talking. And, a clock appears on the display whenever you hang up.

Every conceivable feature from Mute to Tone/Pulse switching, to Pause, to Flash, to battery backup (2 C batteries not included), to three direct Emergency Access Memory Keys and a lot more is included.

There's even Automatic Redial which will redial a busy number for you every 30 seconds.

YUPPIE POWER

I'm anything but a yuppie, even though I just turned 39, but when you look at the sleek, swept back, silver-blue HiTec appearance, and when you examine its complete computer keyboard, you'll understand why it would warm a yuppie's heart. My heart is warmed by what it does, but I must admit it is impressive.

It's made by Mura and here's one reason why the phone sounds so great. Mura is a division of TIE/communications, Inc., which just happens to be one of the largest inter-connect (big business phone systems) companies in the world. In fact, they're listed on the Stock Exchange.

The phone is about 9" wide, and it's backed by Mura's limited warranty.

PUT A ROSE ON YOUR LINE RISK FREE

It's the best sounding speakerphone I've ever heard. Dialing by names instead of numbers is a quantum leap in both technology and convenience.

If you are not 100% convinced, as I am, that this is the best sounding, most convenient phone you have ever used, simply return it in its original box within 30 days for a courteous refund.

To order your Mura Name Dialing 2-Line Speakerphone with God only knows how many features risk free with your credit card, call toll free or send your check for DAK's introductory price of just **$129** plus **$4** for postage and handling. Order No. 4335. CA res add tax.

Note: Order today for September delivery. We will ship on a first come first served basis. Your credit card won't be charged until shipment is made.

In DAK's electronic world, where a new best is achieved almost every day, this phone stands out as the 'best' best I've ever had the pleasure of introducing.

DAK
INDUSTRIES INCORPORATED

TOLL-FREE ORDER LINE
For credit card orders call 24 hours a day 7 days a week
CALL TOLL-FREE. . .1-800-325-0800
8200 Remmet Ave., Canoga Park, CA 91304

RN25

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

BSR's Endangered Colossus

Prepare for bone jarring bass and dramatically clear highs from these newly developed 15" 3-way 5 speaker systems that nearly missed their chance to charm an audiophile's ear. BSR moved its dbx and ADC divisions into one facility and these speakers almost became orphans. So now, they're yours at a close-out price.

By Drew Kaplan

It's a shame. But, it's also a great opportunity to get a pair of 15" audiophile loudspeakers with the newest in stereo imaging at a market-breaking price.

Imagine a precisely matched mirror image pair of top-of-the-line BSR speakers that can effortlessly recreate the cataclysmic impact of a full orchestral crescendo at full volume and yet offer flawlessly subtle sound detail to 21,500hz.

You'll thrill to thunderous bass all the way down to 26hz. Incredibly rich, full, vibrant sound at low volume will explode with life as you increase the volume.

But before we examine the front speaker complement, the twin overlapping crossovers and **the top mounted sonic placement and ambiance speakers**, let's see why they were almost orphaned.

You see, BSR, the half billion dollar electronics giant, is the parent company of two of the best names in up-scale audio, dbx and ADC.

Last year dbx developed a new multi-thousand dollar speaker system called the Soundfield One which lets you sit virtually anywhere in your room and have full stereo imaging and terrific sound.

BSR decided to consolidate ADC and dbx into one building (still 2 companies) and put all its speaker efforts into dbx.

POOR JACK

Well, while dbx's engineers were off designing their multi-thousand dollar masterpieces, BSR's Senior Acoustical Engineer (he had been Fisher's Chief Engineer for 10 years during its top end component stereo days), was designing BSR's radically new speaker line.

The revolutionary top of the line 15" stereo imaging pair pictured above will let you enjoy superb stereo imaging without sitting directly in front of your speakers.

But unfortunately, in the consolidation move, BSR's speakers went by the wayside, and so did Jack.

Enter DAK. After a few fearful negotiations and considering the engineering costs BSR had already expended, they agreed to make the speakers just for DAK.

Because there's virtually no BSR overhead left on these speakers, and the R&D was all but complete, we've gotten these speakers for virtually the component costs plus a little BSR labor.

And don't worry about Jack. BSR had him finish the engineering (they really are great people) and they'll pay him a royalty on each speaker we sell. Besides, by the time you read this, Jack is sure to be snapped up as the Chief Engineer at another esoteric audio company.

WHAT'S STEREO IMAGING?

Stereo imagery is the logical separation and interaction between channels. It's the successful creation of a panoramic wall or stage of music rather than the confined, easily located 2 speaker sound.

IT'S WHAT'S INSIDE THAT COUNTS

Imagine the full thunder of a kettle drum, or the pluck of a string bass being explosively recreated in your living room. BSR's 15" sub-bass acoustic suspension driver will revolutionize your concept of low clean bass.

Its magnetic structure weighs a thundering 48 ounces. But that's not all. The magnetic field is developed by the rare earth metal Strontium for state of the art massive but flawlessly controlled bass.

A 38mm voice coil with a 200° centigrade temperature capacity, will handle the most demanding digital or analog recordings. And, a new super rigid cabinet design virtually eliminates coloration due to uncontrolled cabinet resonance.

At low volume, the bass will fill in and envelope you. At high volume, your room, your walls and your neighbors will shake. This is definitely not a speaker system for apartment dwellers.

MATCHED PAIRS

The mid-range and high end of BSR's speakers are truly unique. Front mounted 8" polypropylene mid-range drivers provide rich sound while top mounted 5" polypropylene mid-range drivers provide an open, lifelike ambiance.

Front mounted exponential horn tweeters provide awesome brilliance to 21,500 hz, while top mounted tweeters enhance separation because they are mounted to the outside edge of each speaker.

So, this system has a specific left and a specific right speaker. You'll find wide, but interactive separation that will vastly widen your ideal listening area.

The imagery will give the illusion of musicians actually playing in front of you. Your music will take on a three dimensional quality. You'll enjoy superb stereo imagery regardless of each speaker's specific placement in your room.

MORE SPECIFICS

The exponential horn tweeters, both in front and on the top of these systems, employ 25mm rigid phenol diaphragms for stability and accurate response.

Polyamid-imid binders and ferro-fluid coolant allow for a 300% increase in heat dissipation so you can drive the voice coils up to 200° centigrade.

Now, the mid-range. Both the 8" front firing and the 5" top firing polypropylene drivers reproduce the mid-range frequencies like no ordinary speakers.

It's amazing that so many speaker manufacturers simply slap in 5" paper mid-ranges to reproduce what's really the major portion of the sound spectrum.

BSR's 8" and 5" polypropylene mid-ranges are rigid, exacting drivers that deliver incredibly pure uncolored sound.

They have matched 25mm voice coils, also protected by ferro-fluid and polyamid-imid to 200° centigrade. They are driven by powerful barium ferrite magnetic fields.

NOT QUITE FINISHED YET

To prevent phase shift and cancellation, two totally separate crossover networks are employed in these speakers.

Next page please. . .

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

. . .BSR's Colossus Continued

All frequencies below 800 hz are directed to the 15" woofer. The front system routes frequencies above 800hz to the 8" mid-range to take full advantage of its superb reproduction capabilities. Frequencies above 3400hz are routed to the horn tweeter.

The top mounted system routes only frequencies above 1200hz to the 5" polypropylene ambiance mid-range driver, and frequencies above 3400hz are routed to the top sonic placement tweeter.

There are level controls for both the top and front mounted speakers so that you can voice the speakers to match your musical taste and environment.

Note: Only the top tweeters are mounted at the the edges. The front mounted tweeters are conventionally mounted for acoustical symmetry.

Each speaker is fuse protected for up to 200 watts peak, 150 watts continuous power. You can operate these super efficient speakers with as little as 20 watts.

AND OH WHAT A PRETTY FACE

The speaker systems are 30" tall, 19¼" wide and 10½" deep. Their lovely oak wood-grain appearance is enhanced by the dark removable grill cloths that beautifully contrast with the rich wood-grain tones. They're a statement of audio elegance when placed in any room. They're backed by BSR's 2 year limited warranty.

A COLOSSAL DREAM COMES TRUE RISK FREE

You'll hear depth of sound at low levels that was previously unobtainable. And yes, when you crank up the volume, your music will explode with realism and drama.

Try these speakers in your own system. Then compare them at any Hi-Fi Store with any pair of speakers up to $1000. If they don't beat all the competition hands down, simply return them to DAK in their original boxes within 30 days for a courteous refund.

To order your matched pair of BSR top-of-the-line 15" 3-way 5 speaker systems with unique stereo imaging risk free with your credit card, call toll free or send your check for DAK's market-breaking price of just **$298** for the **MATCHED PAIR** plus **$22** for Postage and Handling. Order No. 4352. CA res add tax.

It's a dream system for an audiophile. Sonically pure, thunderously powerful, these BSR speakers will make your future listening years an on-going fabulous, if not earthshaking experience.

So, your spouse or neighbors aren't into thunder and paint peeling audio. Don't worry, BSR has developed two smaller but still mighty versions of the colossus that use the same basic components, at incredible prices.

Don't despair. You won't be relegated to 'little sound' by these more sane versions of the Colossus. After all, a 15" 3-way system is usually a distant dream of only the most ardent audiophile.

10" 3-WAY SANE COLOSSUS

You will experience the same dramatic highs to 21,500hz produced by the identical exponential horn tweeters with the same rigid phenol diaphragms. There's even a variable brightness control.

And, don't look for any cheap paper mid-range speakers. You'll thrill to rich, full, incredibly pure music from a 5" rigid polypropylene mid-range driver.

The 10" woofers utilize a massive Strontium magnetic structure and can reproduce dramatically clean, massive bass down to 32hz. Unless you actually set these speakers next to the Colossus, you'd think the bass is incomparable.

The crossover points are at 1200hz and 3400hz. The speakers are rated for 90 watts peak and 45 watts continuous power and require at least 15 watts.

If you're a normal audio person, you'll be thrilled with these as main speaker systems for your stereo. But, if you're a slightly crazy DAK-type audiophile, the big Colossus Systems add a thrill to your music that goes far beyond printed specs.

These speakers are 23¾" tall, 13¾" wide, and 8¾" deep. Their rich oak wood-grain appearance which surrounds the contrasting dark grill cloth, will be an elegant addition to any room.

8" BOOKSHELF COLOSSUS

Where space is a consideration, your music need not suffer. BSR's newest 2-way 8" systems provide an astounding level of musical fullness.

BSR's exponential horn tweeter produces superb highs to 21,500hz. The 8" woofer/mid-range produces bass down to a very respectable 38hz and powerfully clean mid-range up to 2500hz.

On the floor or in a bookcase, these speakers will give you years of full rich beautiful sound. They are just 19¾" tall, 11¾" wide and 8¾" deep. Their rich oak wood-grain appearance which surrounds the contrasting grill will be a beautiful addition to any room.

All BSR speaker systems are fuse protected and backed by BSR's standard 2 year limited warranty.

TRY RICH DRAMATIC SOUND RISK FREE

These smaller versions of the Colossus may have a hard time competing with the awe inspiring sonic violence of their bigger brother. But, compared with traditional speakers, you'll find they've gained greatly by their genetic origin.

If you're not 100% satisfied, simply return them to DAK within 30 days in their original boxes for a refund.

To order the 10" 3-way Sane Colossus with its horn tweeter, polypropylene mid-range and 10" Strontium woofer risk free with your credit card, call toll free, or send your check for DAK's breakthrough price of just **$69** each plus **$9** P&H each. (2 required for stereo). Order No. 4348.

To order the 8" 2-way Bookshelf Colossus with its exponential horn tweeter and 8" Strontium woofer/mid-range risk free with your credit card, call toll free, or send your check for DAK's breakthrough price of just **$44** each plus **$6.50** P&H each. (2 required for stereo). Or. No. 4347.

These speakers have gained a great deal from their big brothers. They'll bring you years of superb musical sound and add truly elegant visual appeal to any room.

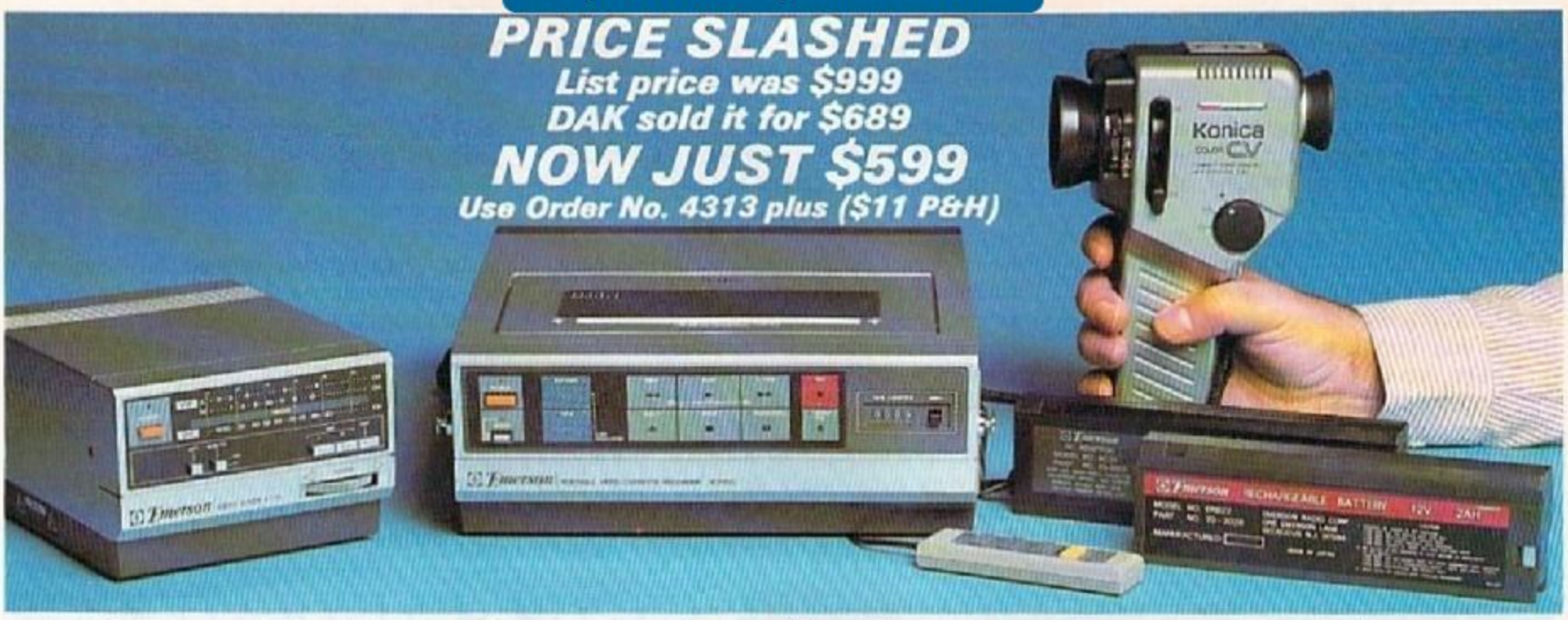
DAK
INDUSTRIES INCORPORATED

TOLL-FREE ORDER LINE
For credit card orders call 24 hours a day 7 days a week
CALL TOLL-FREE. . .1-800-325-0800
8200 Remmet Ave., Canoga Park, CA 91304

BN31

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Daddy's Pride And Joy

I had a meeting that I just couldn't miss. And, my son was giving his first speech. What's a father to do?

And Now, Much Much More

- *For Real Estate*
- *For Tennis*
- *For Golf*
- *For Sales Training*
- *For Actors*
- *For Parties*
- *For Copying Cassettes*
- *For Private Pilots*
- *For Factory Tours*
- *For Equipment Demonstrations*
- *For Family Memories*
- *For Video Christmas Cards*

SPECIAL NOTE By Drew Kaplan

It was amazing. Last summer, we offered a portable video system complete with color camera for just $689.

I, and actually my whole family, tested the equipment before I wrote the ad that follows. But, it was really only after I printed the catalog that I started using the system regularly.

And, as you'll see, use it I did. My older son, Chris, and I took it on a roller coaster. Wow, just turn the page (and maybe your stomach) to see the results.

You'll see the tennis and golf swings of two DAK pros. (I still don't have time to play myself.) What's really interesting, is what Chris said when I asked him (he takes tennis lessons), what he thought of my neat tennis pictures.

He said, "The guy's feet shouldn't have left the ground and he shouldn't crouch so much." I wanted him to critique my neat pictures, not the swing. But, it does prove the value of using video to analyze any games you play.

And the best thing about this system, besides the new $599 price, is that it is so incredibly easy to use. Just turn it on and record. There are no fancy complicated controls.

There's virtually nothing to learn. You'll be recording 15 minutes from the time that you open the box.

Below you'll find an expanded version of my original story. I've added pictures as well as lots of new uses, some suggested by DAK customers.

You can be sure that I would never have thought that plastic surgeons would use a video system. Or, that bull riders at a rodeo would want to record their feats.

By the way, I unfortunately can't reproduce moving video pictures in this catalog, so I had to use conventional cameras along side the video camera for the pictures in this ad.

The video is much more exciting, but you'll have to see that for yourself. Here's my expanded ad.

Daddy's Pride And Joy Expanded

By Drew Kaplan

"Where's the Unicorn?", was the title of my son's speech. And, I was going to miss it.

I had also missed the trip to Knotts Berry Farm where he had won the Unicorn. He was especially proud because neither his older brother nor any of the adults had been able to win anything.

POSSIBLE DIVORCE?

Everyone in the family thought I should skip the meeting, and they were probably right. But I had an idea.

I called Emerson and asked to borrow one of their portable video machines with a camera that would 1) be light enough for my wife to easily carry, and 2) wouldn't require any training.

The next day we received the system you see above. I didn't plan to sell it (I told Emerson that at $999 it was too expensive), but I really needed it for that day.

Well, not only did this system save my marriage, but we've had a heck of a lot of fun. Yes, I've seen the Unicorn Speech many times, as have all the grandparents. But that was just the beginning.

The very first night we unpacked the recorder, the kids turned into 'hams'. And by the way, the speech was probably much better because we used the video recorder over and over again to practice.

So, whether you're a movie star, a model, an extra or simply giving a speech at school or at work, you can practice and evaluate your presentation as often as you like.

If you're like me, speaking in public is awesome. I want to know what I look like, what I sound like and how I make my points **before** I go live.

SUPER EASY TO USE

Inside and out, (yes it came right out of the box with everything, including an AC power supply and a rechargeable battery) we really put this thing to use.

Just plug the camera into the recorder. Then insert the rechargeable battery or the AC power supply. Finally insert a standard VHS cassette and away you go.

Cables are included to connect this recorder to any TV inputs from 75 ohm cable to 300 ohm flat wire to direct video for a monitor or another recorder.

Next page please. . .

RN16

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Daddy's Pride And Joy Continued. . . Everything you need is included.

LOTS OF USES

My older son is taking tennis lessons. Making recordings of your swing out on the court is an ideal way to improve. He can really study his wrist and arm action.

Here are some pictures of our resident DAK tennis pro doing his thing for my cameras. Do you think his swing is good? (See previous page.)Of course, you can freeze the action at any point to really study your swing.

It's also terrific out on the golf course for improving your golf swing. In fact, it's such a powerful method of game improvement that they sell video cassettes showing you how to improve your game.

Here's our resident DAK golf pro demonstrating his skill for my cameras. On the video tape you could freeze the action frame by frame. (He asked me to tell you that he only looks fat in the picture because of the effect of the number of exposures I needed to show his full swing.)

With this system you can really refine your game. I can't personally attest to improving your tennis or golf games, because I'm too busy writing catalogs to take time off to play.

And anyway, when I was growing up, playing ping pong seemed to be an extravagant sport to me.

GOOD FOR WORK TOO

It's easy to see how many pleasurable uses it has. But, wait till you see what it can do for you at work.Here are just a few of the many types of work that can be enhanced by using this video system.

If you have salesmen in the field, wouldn't it be great to be able to send out a personal video description.

It can be of your newest products, automated equipment, or a message from the president about what the sales force should know about the company's future plans. It's great for morale.

With over 30% of households in the U.S. already having video recorders, you probably won't even have to supply a recorder. And, think how powerful the presentations of your sales force will be when they can show live videos of your products **IN ACTION** instead of boring price list pictures.

For Real Estate. It's already happening. Just imagine walking in to a prospective buyer's home with tours of 5 or 6 homes ready to show on their TV. All you have to do is walk though a home to show the view, amenities, and give a true feeling of the home.

You'll save hours. Your clients will appreciate the time you save them and you'll only take them to see the homes they'll be likely to buy.

Some agencies even have the 'sign planters' tape the houses so all the brokers in the office can get an easy look.

And, no matter what, you should have a stock tape showing the schools, the churches, the stores and any other assets of the community that are likely to help with the sale.

For The Factory. Why teach each new employee how to run the same machine. Sit them down in front of a TV and let the video tape do the work. You'll always know for sure exactly what the new employee has been told and they can watch the tape several times if they wish.

When you do bring them out 'on the line', you'll find the fine tuning is really easy and you'll have saved hours of repetitive teaching. Making the tapes is easy and it can really pay off.

There's Lots More. The power of a plant tour or equipment demonstration on tape shown to a prospective out of town customer is awesome. It can make the ultimate difference.

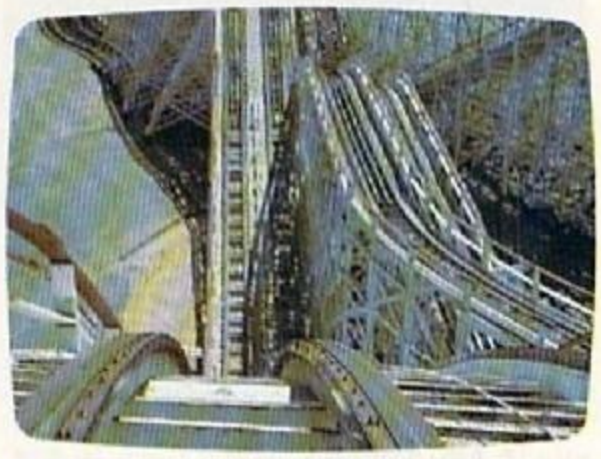
Why not have an introduction to your company in the personnel office for all new employees. And, providing live, up to the minute information for your sales force is simply priceless.

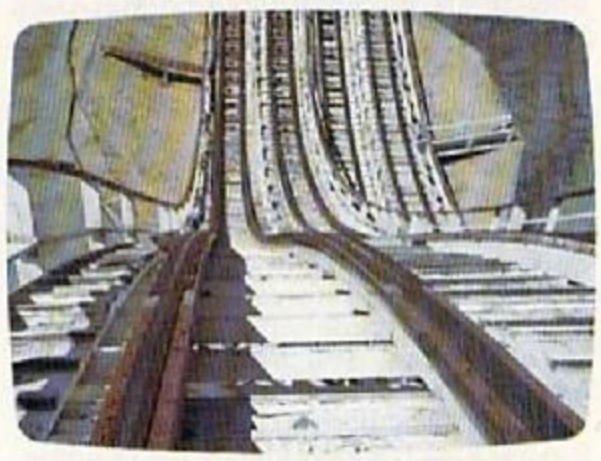
LIVING CHRISTMAS CARDS

With video cassettes costing as little as $5, why not send one to an old friend who lives across the country. Wow, what a great way to revive old friendships.

As many as 30% of all households are estimated to have VHS recorders. So, there's a good chance your old friends already have recorders.

My wife is planning to send out about 6 copies of a tape about us to her old 'best' friends in Akron, Ohio and Denver, Colorado and Phoenix, Arizona.





Here's the view from a twin engine island hopper we took to visit DAK's retired controller while we were in Hawaii. Unfortunately I'm not a private pilot, but just think of all the great moments you've had in the air that you can show on the ground.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

If you look at the picture below, you'll see my son heading for a soccer ball. If you're into comedy, you'd have to see the video to see him not only miss the ball, but end up flat on the ground. (He was fine as usual.)

REALLY EASY

Touch the trigger on the camera. The tape will start. Touch the trigger again and the tape will stop.

You'll have easy TTL (through the lens) viewing. There's a focus control **and a 3X zoom lens**. A green LED shows you that you're recording and a red LED shows you if there's not enough light.

But don't worry about light. You need only 35 lux, which is about normal room light for perfect recordings.

A 4-position switch lets you optimize the camera for standard incandescent light bulbs, fluorescent bulbs, full sun, or cloudy days. It's easy; it's quick, and you'll be amazed at the results.

A unidirectional electret condenser mike mounted on the camera picks up the sound with astonishing clarity.

You'll have loads of features, including speed search, still frame, audio dubbing, and automatic fine editing.

You'll particularly like the remote control because it allows you to freeze frame, advance frame by frame, and activate fast forward or reverse visual scan.

A FRANK COMPARISON OF CAMCORDERS AND SEPARATES

There are two types of video systems on the market, and a dizzying array of formats. Let's look at formats first.

Camcorders use 8 millimeter cassettes, mini VHS, Beta or full size VHS. Obviously, standard VHS cassettes with their 100% compatibility with all VHS home units and their 6 hour recording capability are our choice.

The problem is that while a few of the smaller format cameras with 20 minute recording capability can weigh somewhat less than 5 pounds, VHS camcorders can weigh over 8 pounds

Emerson's system has a camera that only weighs 1.54 pounds. Holding up 8 pounds to your eye can be a real pain.

Of course, when you add Emerson's recorder at 10.6 pounds, it weighs more overall. But, the 10.6 pound recorder is supported by a comfortable shoulder strap. So, you only hold the 1.54 pound camera up to your eye.

And, with separates, you can take the recorder without the camera for dubbing or playing tapes.

It's impossible to say which format will eventually win the contest. But, whether it's separates like the Emerson, or full size VHS camcorders, your tapes will be 100% compatible.

AT HOME TOO

You'll get a TV tuner that turns this recorder into a standard home video recorder. You can record off the air VHF 2-13 and UHF 14-83.

The recorder has both VHF channel 3 and 4 output capability, so you can connect the recorder to any TV.

It also has 'video' inputs and outputs, so you can connect it directly to a TV monitor or to any other video recorder.

Just use normal 'audio' type RCA patch cords for really clean copies of cassettes. **So, it's a portable dubbing machine.**

There's an adjustable shoulder strap. And, it's backed by a limited warranty.

CAPTURE YOUR FAMILY OR BUSINESS RISK FREE

It's not like using expensive film that has to be processed. With six hours costing about $5, you'll have a ball.

If you're not 100% satisfied, or even if you don't like to watch your family on TV, simply return the system in its original box within 30 days for a courteous refund.

To order your Emerson Video System (Emerson's camera is by Konica), risk free with your credit card, call toll free, or send your check for ~~only $689~~ plus $11 P&H. Order No. 4313. CA res add tax.

You've got to try this! Take the camera in the car and drive around your block or to your office with someone holding the camera out of the window. Wait till you see the results. It's like a roller coaster.

In fact, we rode a roller coaster 4 times to get the pictures on the previous page. It's really hard holding on for your life while you try to shoot pictures. But, the tape sure is a blast to watch.

UNNECESSARY OPTIONS

Basically the system comes with everything you need. But, here are a few extras.

You can order extra rechargeable batteries. Each charge (2½ to 4 hours) gives you about an hour of recording. So, if you want to record more than an hour without recharging, an extra battery is just **$24.95** ($2 P&H) Order No. 4363.

You can operate this system from your car, boat or plane's 12V cigarette lighter. The cable is just **$9.95** ($1 P&H) Order No. 4364.

What if you're alone and you want to record yourself. We have a tripod for the camera. (Yes, there's a standard tripod mount on the camera.) You absolutely do not need this to hold the camera steady when you're recording on the move. But, if you're working alone, it's just **$39** ($4 P&H). Order No. 4365.

Finally, if you're out in the bushes where you don't have access to a TV and you'd like to show off your tapes, we've got an AC/DC black and white (D cells not included) 5" TV for just **$69** ($5 P&H) Order No. 4366.

Or, you can go in style with an AC/DC 5" color set (D cells not included) for just **$199** ($7 P&H). Order No.4367.

Of course, any TV anywhere will work perfectly with this system, so chances are you don't need any of the optional accessories. This is not just a 'starter system'. This is a complete video system just the way it comes out of the box.

PRICE SLASHED

List price was $999
DAK sold it for $689

NOW JUST $599

Use Order No. 4313 plus ($11 P&H)

DAK
INDUSTRIES INCORPORATED

TOLL-FREE ORDER LINE
For credit card orders call 24 hours a day 7 days a week
CALL TOLL-FREE. . .1-800-325-0800
8200 Remmet Ave., Canoga Park, CA 91304

RN15

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Cable Controller Plus

Get all the cable channels on any TV or video recorder with this all new wireless infrared remote control cable tuning system. And at just $88, we're sure to break the cable market wide open.

If you've got cable, we've got it all. Now you can tune in up to 60 cable channels from your easy chair.

The Universal Cable Controller receives all VHF Low Band channels 2-13 and VHF Midband 14(A)-22(I).

Plus it tunes the Super Band VHF channels 23(J)-36(W) and Hyper Band channels from 37-60. You'll get a lot of stations for our breakthrough price.

MOVIE CHANNELS

If there are movie channels on your cable and they're not scrambled, the Controller is all you need. If they're scrambled, you'll need the cable company's box.

Note: Check with your cable company before viewing anything at all, to see if they require you to pay a fee.

SPORTS PLUS

There are lots of 'Super Channels' broadcast on cable. On the all sports channel you'll watch 'World Class Sports' whenever you wish. All Movie Channels give you entertainment at all hours.

And 'Super Stations' from New York and Atlanta give you major city TV for cities other than your own. Plus, there's Cable News Network for a world wide perspective on the news and much more. Why not see what's on your cable?

ONLY FOR CABLE

If you don't have cable, the Cable Controller isn't for you. It only finds you extra channels when you are connected to a cable. And, it doesn't tune in UHF.

But, if you're on cable, your cable company is rebroadcasting UHF over unused VHF channels. So with the Cable Controller tuner, you'll get it all.

TOTAL RANDOM ACCESS TUNING

The wireless infrared remote hand controller does it all. It switches both the TV and the Controller on and off and selects your channels. **And, look at this.** You can select your favorite channels (up to 6) and store them in a special section.

Then just touch the special 'RCL' Recall Button and you'll be able to sequence through only your favorite channels. This is especially convenient if you like to flip through movie channels during commercials on regular TV.

For the other channels, you'll enjoy total random access tuning. You can go directly from channel 2 to 28. Or you can step tune one channel at a time.

Once you've set your own TV to channel 3, you can just forget it. Any fine tuning is handled from the wireless infrared remote handset. And you'll have crystal controlled frequency phase lock loop synthesizer tuning for the finest picture.

You'll see the number of the station that you have selected displayed on the command base. And, you can tune channels either from the remote or the base.

Color tints, volume, brightness and contrast are all controlled by whatever method you now use.

INSTALLATION

Nothing to it. All cable systems use 75 ohm round cable. Simply unscrew the end from your TV and screw it into the Controller base input.

RN04

Then screw in an identical cable (included) between the Cable Controller and your TV. Finally, plug your TV's AC plug into the Controller and the Controller's AC plug into the wall.

WHAT IT IS

The Cable Controller is actually a very sophisticated, all electronic VHF TV tuner/receiver. It's really like a TV set without a picture tube.

Since it's all electronic, you won't be getting snow from dirty tuning contacts and loss of fine tuning as the set ages.

The Controller tunes all the possible stations that your cable can broadcast, something that would be very expensive to build into standard TVs, because not all TVs are going to be used on cable.

GREAT FOR VIDEO RECORDERS

Now you can record off cable. With the Cable Controller hooked to your video recorder you can open the world of cable to your video recorder too.

Cable ready video recorders that don't even tune in 60 channels can cost hundreds of dollars extra. You can feed both your TV and video recorder. Or, you can separate them so that you can easily watch one thing and record another.

WHAT IT ISN'T

It isn't one of the infamous 'black boxes' you might have read about that illegally decode various 'Pay TV' channels. On cable, most of the programming isn't scrambled, it's just found outside the tuning range of the average TV.

So, if there is a Pay TV channel that is scrambled, or is only unscrambled on one TV in your house, the Controller is not made and should not be used to tune it in without paying.

Actually 'Cable Ready' TVs and video recorders do basically the same thing as the Cable Controller, but cable tuning is usually an added on feature that often doesn't cover as many channels.

The Cable Controller is made and backed by a standard limited warranty from Universal Security Instruments Inc.

TRY THE WORLD OF CABLE RISK FREE

Relax up to 20 feet away. Change channels, adjust the fine tuning or turn your set on or off. Explore the vast number of cable channels available to you.

Try it risk free. If you aren't 100% satisfied, simply return it in its original box within 30 days for a refund.

To order your Universal 60 Channel Cable Controller with Wireless Infrared Remote Control, risk free with your credit card, call toll free or send your check for DAK's market breaking price of just **$88** plus **$5** for postage and handling. Order Number 4147. CA res add tax.

There's a whole new world of entertainment waiting for you just off your normal TV tuning range. With the Cable Controller, you can sit back in your favorite easy chair and tune in the world.

DAK
INDUSTRIES INCORPORATED

TOLL-FREE ORDER LINE
For credit card orders call 24 hours a day 7 days a week
CALL TOLL-FREE. . .1-800-325-0800
8200 Remmet Ave., Canoga Park, CA 91304

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The $4 Energizers for Commodore 64 & 128

Yes, it's a trap. You can't buy Super Huey, the top rated helicopter flight simulator for $4, Swift Calc's 6600 cell spreadsheet program, or TextPro/DataPro Word Processing and Data Base programs for $4 each. Or, can you?.

By Drew Kaplan

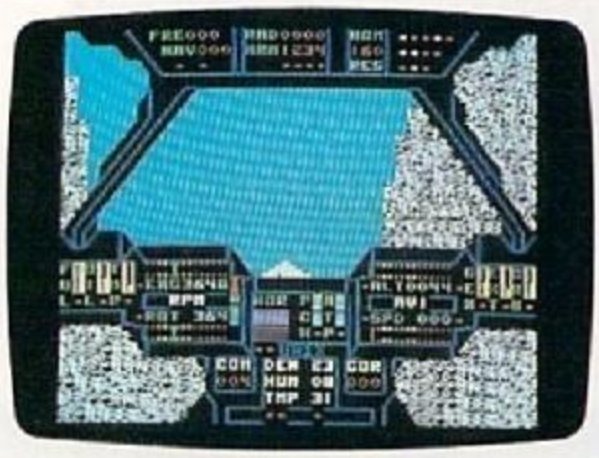
Life is tough. And then, you die. And that little idiom of life has certainly been proven true in the computer industry.

Well, I've been personally depressed by the fall in the computer market. It's not a fad. It's really a human triumph.

So, just when nobody wanted my 'trap', I jumped in and bought over 10,000 units.

Then Commodore, in its infinite wisdom, brought out their new 128 computer (it's really neat, I've been using it) and my 'outdated, dead product', has its very own slot. So read on, and I'll tell you why I believed in this product. And remember, even though it's a trap, you're going to get a mind boggling deal.

Of course, if you don't have a Commodore 64 or a 128, and you're not going to buy one, you'll just feel left out if you read on, so you better stop here.



SUPER HUEY

This is a true flight simulator. You're in the cockpit as you lift off and guide your copter through treacherous mountain passes, and over desert bases.

It will take you hours to master the 'collective' and control the 12 types of movements as you go on rescue, exploration and combat missions. The list price is $19.95, but it's yours for $4 as bait.

SWIFT-CALC SPREADSHEET

You can have sophisticated spreadsheet capabilities on the Commodore. Just imagine, with over 6600 cells, you can do loan analysis, expense reports and much more. If you invest or budget, Swift-Calc is ideal. It has pop-up menus and it's yours for just $4 as bait.

TEXTPRO/DATAPRO

Imagine a word processing program that is so easy to use that you don't even have to read the instructions. Just type your letters, term papers, or memos.

Then add a data base program that will let you create, organize and search up to 200 files, each with 8 sections.

input field names (1 to 8)
field name 1 : NAME
field name 2 : PHONE
field name 3 : ADDRESS
field name 4 : CITY
field name 5 : STATE
field name 6 : ZIP
field name 7 : INTERESTS
field name 8 : JOB DESCRIP
are field names ok (y/n)

And you can create as many different data bases as you wish, each with up to 200 files. You can keep the information in your computer or print it out.

The data base program can arrange it for you numerically or alphabetically, Or, use 'Greater Than' or 'Less Than' commands. For example, you could have the computer list all your stocks that are worth more or less than a certain value.

These 2 programs list for $39.95. But, they're both yours for just $4 as bait.

RICHARD PETTY'S TALADEGA

Take your seat and try to qualify. There are 18 drivers on the track, each with their own style of driving. It lists for $19.95, but it's yours for $4 as bait.

SLINKY (Picture Next Column)

Guide Slinky from square to square. You have to change the color of each square to finish a level. Finish a perfect level and you'll get an instant replay of your moves. Its list is $19.95, but, it's yours for just $4 as bait.

MORE

Not pictured is Forbidden Forest, picked as one of the 50 best games of all time. You'll be attacked by savage beasts as you try to shoot them with arrows. It's almost 3D and it's tough. $19.95 is list, but it's yours for $4 as bait.

Finally, there's Monster Trivia with over 2000 trivia questions. 1 to 4 people can play. Good luck! It lists for $19.95, but it's yours for $4 as bait.

IT'S COME BACK TO LIFE

So, what did Commodore put into its new 128 computer? They put in a cassette port. And, I think they recognized that aside from the $150 odd dollars you save on a disk drive, that cassettes are a very safe, reliable and easy way to save and retrieve data.

So, we've taken these wonderful productivity programs and thrilling games, had them manufactured on cassettes (the list prices are for disks) and you may choose 1 or all of them **only** when you buy the data cassette recorder.

If you now have disk, you'll be amazed at the speed and accuracy of cassette storage. If you have a data drive already, here's a great spare and oh, the software.

It just plugs into the cassette port of either your Commodore 64 or 128. It's

reliable. It's easy. Cassettes are cheap and protect your data. And everything is backed by a standard limited warranty.

$4 SOFTWARE BONANZA RISK FREE

Order any or all of the above programs. Try out the data cassette recorder. If you're not 100% delighted, simply return the recorder and all programs you purchased in their original boxes within 30 days for a courteous refund. Note: You may not return the recorder without all the programs you purchased.

To order your Fortronics Data Recorder for your Commodore 64 or 128 and any programs you desire, risk free with your credit card, call toll free, or send your check for DAK's close-out price of just **$29** ($4 P&H) Order No. 4143.

You may order one copy each of any **or all** of the cassette programs for **$4** ($1 P&H) each. Use the following Order Nos.: For Super Huey, No. 4368. For Swift-Calc, No. 4369. For TextPro/DataPro, No. 4370. For Taladega, No. 4371. For Slinky, No. 4372. For Forbidden Forest, No. 4373. For Monster Trivia, No. 4374.

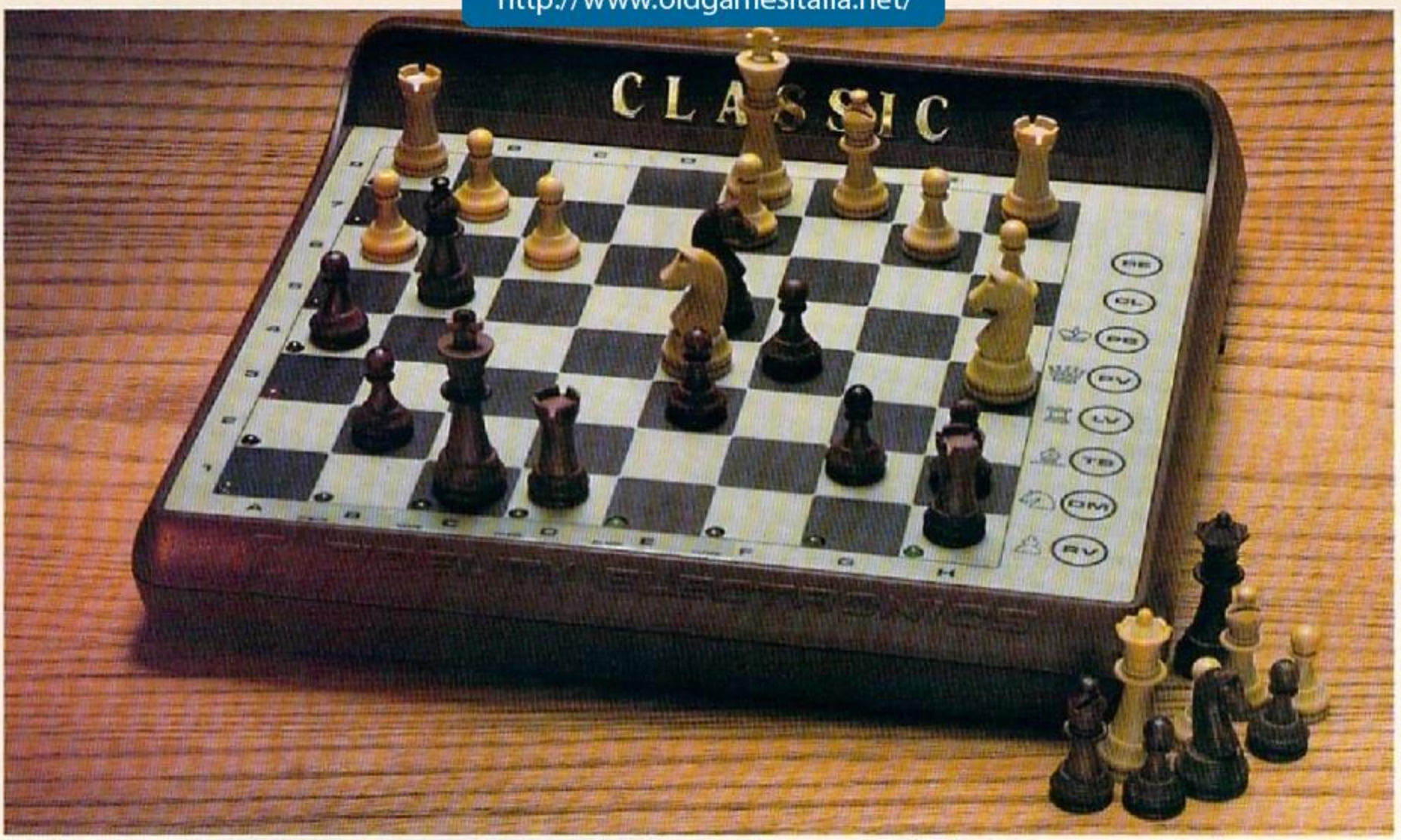
Imagine all this productivity and challenge for just $4 each. DAK originally offered the recorder for $49. Now, at $29, and with this software. Wow!

Commodore and Commodore 64 & 128 are registered trademarks of Commodore Electronics Ltd.

RN33

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



No Button Chess

Just follow the blinking lights for the most challenging game of your life. There are 8 levels. It's fully automated. And, wait till you see the price.

It's you against the computer. Chess comes alive with the latest breakthrough in computer technology.

There are no more bothersome buttons to push and complicated calculator displays to decipher. This computer uses 'sensor technology' to interpret what you have done, and simply lights 2 LEDs to tell you what it wants to do.

It's the newest version of 'follow the bouncing ball'. Now it's follow the blinking light. So, let the war begin!

It's smart. It has 8 levels of difficulty and its brain is an 80C50 Processor running at 6 megahertz with a memory capability of 32,000 bits, so you better come out fighting.

SIMPLE TO USE

Notice that I said, "simple to use", not simple to beat. Using this computer is incredibly easy. Just move your man. The computer will know exactly what you've done.

Then it's the computer's turn. Two LEDs will light to show you the man the computer wants to move. Then two more light show you where to move the man.

It's simple. It's easy. And, there are no buttons to push. You can concentrate on the game, not on the computer.

BUT, THERE ARE BUTTONS

The only buttons you really need are the on/off switch and the new game button. But, look at this.

There's help. Just touch a button, and the computer will join your team. It will pick your best possible move. A second button touch will send its brain back to pick its best response.

You can cheat. Let's say you make a really dumb move. After you see what the computer is going to do to you (horrors, you've lost your Queen), you make the computer take back its last move and then you can take back yours.

And that's not all. If you're the type of person who says, "If I only had my Queen back, I could beat this thing," no problem. You can add back in any piece anywhere, with the push of a button.

But there are limits. This computer won't let you make an illegal move. And if you move its man to the wrong location, it emits an unpleasant sound and flashes the lights re-showing you where it wants to go. So, what could be easier?

There's more. You can do a lot with the powerful brain of this computer. Not only can you add back in a piece you lost, you can take one of the computer's away. Plus, you can set up a classic game in mid-play to see how you would do.

This computer does everything a chess master would do. It castles, it has pawn promotion and en passant. So brush up, you'll have to play your best.

Even level one is a challenge. I can't beat this computer at level 4. And, I don't even want to talk about levels 5, 6, 7 and 8. And here's a nice extra.

You won't have to wait for the computer. With its super fast 6 megahertz speed, it thinks while you're playing (I think it knows what you're going to do).

It reacts in 5 seconds on level 1, 30 seconds on level 4 and so on. See if your brain can keep up with this computer.

WOW, IT'S REAL CHESS

But, when all is said and done, playing chess is what it's all about. And this game is very smart, very tough, but incredibly easy to use. Every move is even audibly confirmed.

It is only 10½" X 11" X 2½". The combatants are magnetic and the King stands 2" tall. Using the newest IC technology, this computer operates for more than 500 hours on 4 C batteries.

So, this chess player goes where you go. And, with more than 500 hours of battery life, you don't even need to buy an AC adaptor.

It's made in the United States (isn't that a change) by Fidelity Electronics. They are the largest and best known of the chess computer manufacturers. And, it's backed by their limited warranty.

TRY NO BUTTON CHESS RISK FREE

If you like a challenge and your ego is strong enough to withstand losing to a computer, why not play just one game.

If you aren't 100% satisfied, even if you just lose too often, you can return this computer within 30 days in its original box for a courteous refund.

To order your Fidelity No Button Chess Computer risk free with your credit card, call toll free, or send your check for DAK's breakthrough price of just **$69** plus **$4** for P&H. Order No. 4306. CA res add 6% sales tax.

Whether you're a novice or a master, one of the 8 levels is sure to keep you humble. Chess taxes intelligence, not reflexes, which is why it's always been a game of Kings and Diplomats.

DAK
INDUSTRIES INCORPORATED

TOLL-FREE ORDER LINE
For credit card orders call 24 hours a day 7 days a week
CALL TOLL-FREE. . .1-800-325-0800
8200 Remmet Ave., Canoga Park, CA 91304

RN24

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

NEW FOR '86!

ReRUN QUARTERLY

BI-MONTHLY

Get Every Program In RUN

It's the best software news of 1986! Now you can get all of your favorite ready-to-run programs—not just selected programs—from RUN Magazine. Introducing ReRUN Bi-Monthly. . . one super disk containing two months' worth of *every* outstanding Commodore program listed in RUN. We've increased our frequency to serve you better. Each disk is packed with applications, utilities, and games programs—you can use in a ready-to-run format.

FREE Bonus Program!

And as a special bonus, each ReRUN Bi-Monthly features a previously-unpublished *bonus* program. You'll get a FREE high-quality program that will be a perfect complement to your Commodore software library.

Available In February

It all begins in February with the first 1986 edition. Enjoy every program published in the January and February issues of RUN, without enduring time-consuming keyboarding and debugging. Each issue comes with a four-color documentation booklet so you can boot up your favorite programs in just minutes!

Subscribe Now—SAVE 30%

And if you subscribe to ReRUN *now*, you'll *save 30%* off the single copy price! You get all six issues for just $89.97. Or, order individually and pay $21.47 for each bi-monthly disk.

Get more great Commodore programs more often in 1986, plus six *free* bonus programs, and a 30% savings with a one-year subscription.

You'll get it all in the new ReRUN Bi-Monthly!

YES! **I WANT MORE ReRUN IN '86. PLEASE SEND ME:**

☐ 1 yr. (6 issues) for $89.97. I save 30% off the individual price.

☐ The January/February ReRUN disk for $21.47.

☐ Payment Enclosed ☐ Visa ☐ AE ☐ MC

Card # _____ Exp. Date _____

Signature _____

Name _____

Address _____

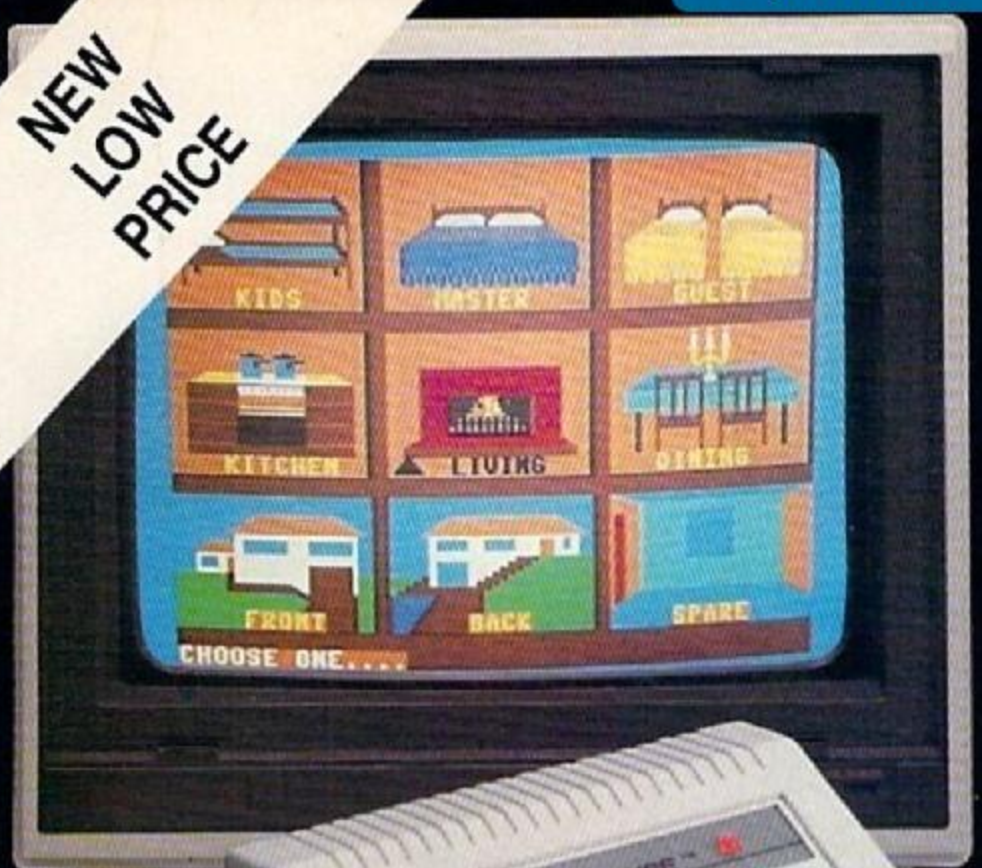
City _____ State _____ Zip _____

ReRUN • 80 PINE STREET • PETERBOROUGH, NH 03458 **2-86**

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

NEW LOW PRICE



THE X-10 POWERHOUSE DOES EVERYTHING BUT PUT OUT THE CAT.

Model CP290

THE X-10 POWERHOUSE INTERFACES WITH YOUR COMMODORE TO CONTROL YOUR HOME...FOR SECURITY, COMFORT AND ENERGY SAVINGS.

This remarkable Interface lets you run your home through your Commodore 64 or 128 and a keyboard or joystick.

When you're away, it makes your home look and sound lived in. When you're home, it can turn off the TV at night and wake you up to stereo and fresh brewed coffee in the morning. It can even turn on your air conditioner and control your heating.

SPECIAL COLOR GRAPHICS MAKE PROGRAMMING A SNAP. You simply pick a room from the display screen. Use your keyboard or joystick to position graphics of lights or appliances. Then follow on-screen instructions to program any light or appliance to go on or off whenever you choose. You can even control thermostats, light intensity and more.

THE WAY IT WORKS. The X-10 Powerhouse Interface is cable-connected to the Commodore "User" port and plugged into a standard 110V outlet. After it is programmed, the Interface sends digitally encoded signals through your home wiring to special X-10 Modules. To control a lamp or appliance, you simply plug the electrical device into a Module and then plug the Module into an outlet. The Interface can control up to 256 Modules throughout your home and won't interfere with normal use of lights and appliances.

There are plug-in Appliance Modules, Lamp Modules, Wall Switch Replacement Modules and Special 220V Modules for heavy duty appliances such as water heaters and room air conditioners. Plus Thermostat Controllers for central heating and air conditioning, Telephone Responders to control your home from any phone, and much more.

IT WON'T TIE UP YOUR COMPUTER. Use your computer only for programming. When you're finished, disconnect the Interface from the "User" or RS-232 port and keep it plugged into any convenient power outlet in your home. It will operate as a stand-alone controller with battery back-up and will run your home automatically.

NEW LOW PRICE! A Powerhouse System including the interface, software, and connecting cables now costs less than $100. X-10 Modules are less than $20 each.

For the Dealer Nearest You Call: 1-800 526-0027
[In NJ: (201) 784-9700]
or, write to: X-10 (USA)
185A Legrand Avenue
Northvale, NJ 07647

X-10® POWERHOUSE
NUMBER ONE IN HOME CONTROL

Commodore 64 and Commodore 128 are registered trademarks of Commodore Int'l Ltd.

Circle 77 on

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Tax Deductor's Delight

This program lets you file, sort, total, print and save all records that pertain to Schedule A of Form 1040.

By BARBARA SCHULAK

Itemized Tax Deductions will keep a file of all your itemized deductions. The fields for each record are category, date, check number, description and amount. The categories are—as on Schedule A—medical and dental expenses, taxes, interest expense, contributions, casualty and theft and miscellaneous.

Records may be added, changed or deleted. They may also be displayed on the screen or outputted to the printer, either in toto or by category. The latter option provides a sort of all the records by category and includes a statement of each category's total expenditures. The data may then be saved to either disk or tape. The program allows for the filing of 200 individual records. If more are required, the DIM statements in line 5 should be changed.

The program first presents a main menu. The options are as follows:

1. Load data
2. Add a record
3. Find a record
4. Change a record
5. Delete a record
6. Display file
7. Print file
8. Save data
9. End program

When running the program for the first time, choose Option 2, add a record. After the first session and once data has been saved, you must start with Option 1, load data.

The program will then ask for a filename. I would suggest using something like TAX-1985. If you're using a disk, the program will display a message that gives the status of the load. Then the program returns you to the main menu.

To add data, choose Option 2. The prompts are category, date, check number, description and amount of check. The category designation is entered numerically (1–6) from the displayed list. To enter the date, you may use any of the following types of formats: AUG 01, AUG 1, 08/01 or 8/1. Mainly, you should be consistent and not use more than six characters (including spaces).

The check number is entered as a string, so you may enter other strings of four characters or less (such as CASH) if the expense was not in the form of a check. The description can be anything, as long as it's 20 characters or less. Do not use dollar signs ($) when entering the amount. Enter 100 or 100.00, but *not* $100. Again, consistency will provide you with neater outputs.

In addition to adding records to the file, you may also change or delete an entry. To find which entry to change, you may use Option 3, find a record, which will sort through the records by any category or field. Or you may use Option 6, display file. Know your check number, because it is the key field for deleting or changing an entry. Then, just follow the prompts on the screen, using the same guidelines for data input as outlined above.

To see your file, choose Option 6. A submenu will then ask if you want to see all the records, or records sorted by field. You may then choose the field that you want. Any of these options results in the output of all necessary information to the screen, including a total of the amount spent.

Option 7, printing the file, works in the exact same manner. Examples of printouts may be seen in Table 3, which shows a sample printout for all records in a file, and in Table 4, which shows a printout of all records for the contributions category.

Option 8 is the Save File routine and is exactly like the Load routine. Don't forget to save the data before ending the program (Option 9)!

For those interested in programming or in making modifications to the program, I have included a list of the variables used in the program (Table 1) as well as a list of the program structure (Table 2).

This program might not do everything for you in Schedule A, but it is an excellent way to collect, store and sort your records for tax purposes and should also save you some time. R

Note: The program will work on the Plus/4 with these two changes:

Line 15REM
Line 85IF K=9THENEND

Address all author correspondence to Barbara H. Schulak, 2 Forest Glen, Iowa City, IA 52240.

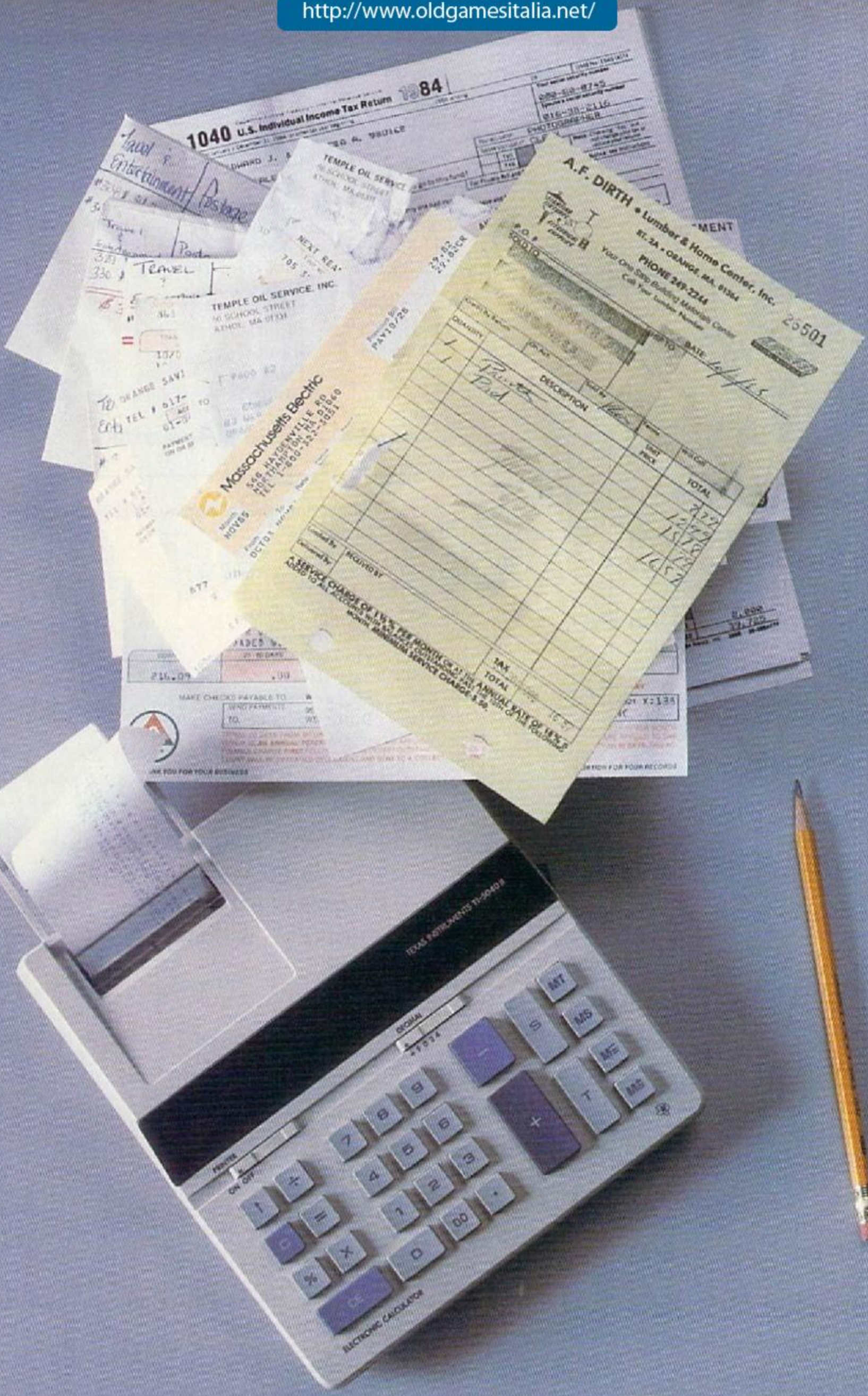
RUN It Right

C-64; C-128 (in C-64 mode)
Plus/4 (with modifications)

Photograph by Ed Leibe

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



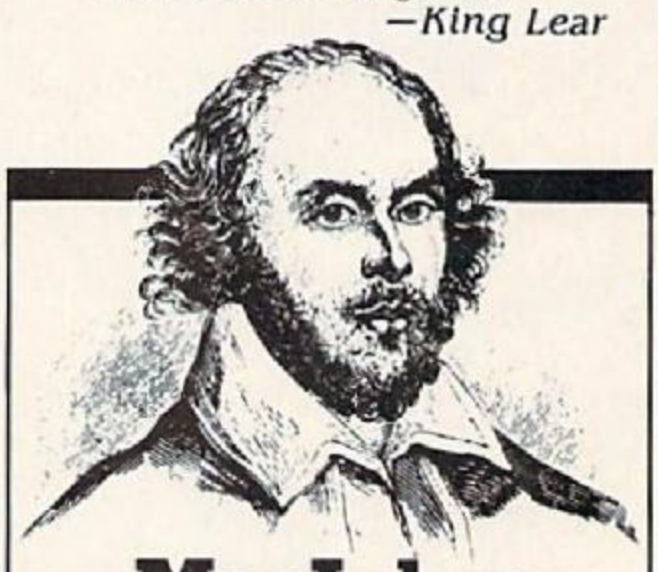
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 274 on Reader Service card.

At Christmas I no more
desire a rose
Than wish a snow in May's
new fangled mirth
But like of each thing
that in season grows
—King Lear

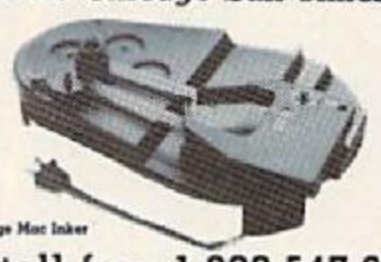


MacInker

A Gift For Christmas
A Gift For All Seasons

If Shakespeare had had a word processor, he would have consumed about 25 cartridges to run a first draft of his works. At an average cost of $10/cartridge, the cost is $250. With MAC INKER he would use one cartridge, his total would be 50 cents in ink, and his print-out quality would be much improved.

And now one UNIVERSAL CARTRIDGE MAC INKER (UC) re-inks all fabric cartridges and one UNIVERSAL SPOOL MAC INKER (US) re-inks all spools. MAC INKER (UC) is $60. Cartridge drivers are $8.50 ea. MAC INKER (US) is $66.95. We still have our first generation, dedicated MAC INKER(s) for most popular printers, with prices starting at $54.95. You can also use any MAC INKER to create and/or re-ink your own colored cartridges. There are more than 45,000 MAC INKERS in the field in the U.S. and overseas. MAC INKER has been reviewed, approved and flattered in most magazines, and even in the *New York Times* and the *Chicago Sun Times*.



Universal Cartridge Mac Inker

Order toll free 1-800-547-3303
or ask for free brochure

Computer Friends

6415 SW Canyon Court, Suite #10
Portland, OR 97221
in Oregon and for 24-hour service
(503) 297-2321 • Telex 4949559CF

C$( )	Category names
CA$( )	Field names
A$(X,1)	Category
A$(X,2)	Date
A$(X,3)	Check number
A$(X,4)	Description
A$(X,5)	Amount of check
N	Number of records in file
FL$	Filename
E,E$,E1,E2	Disk error checking
TL	Total amounts
K,K$,I$,N$	Input
R,R$,C,C$	Input
F,F$,G,G$	Input
FL,F1	Flags
I,J,X,A$	Utility

Table 1. *Itemized Tax Deductions program variables.*

5–95.	Dimension arrays, display main menu
100–180.	Load data
200–250.	Add a record
300–320.	Change a record
400–470.	Delete a record
500–585.	Display records
600–685.	Print records
700–720.	Find a record
800–880.	Save data
1000–1035.	Sort records
2000–2040.	Input filename subroutine
3000–3010.	Get a key subroutine
4000–4050.	Input data subroutine
5000–5175.	Input field subroutine
6000–6020.	Data statements

Table 2. *Line-by-line program structure.*

ITEMIZED TAX DEDUCTIONS

CAT	DATE	CHECK#	DESCRIPTION	AMOUNT
CON	JAN 2	900	CHARITY #1	10.00
MED	JAN 10	910	MEDICINE	10.98
CON	FEB 10	950	CHARITY #2	25.00
MED	FEB 15	960	DOCTOR	78.00
CON	MAR 10	980	CHARITY #3	15.00
CON	MAR 15	1000	CHARITY #4	10.00
TAX	MAR 30	1010	PROPERTY TAX	1000.00
MED	APR 10	1020	DENTIST	57.25
MED	MAY 5	1040	MEDICINE	15.44
INT	JUN 15	VISA	FINANCE CHARGE	11.33
CON	JUL 11	1083	CHARITY #5	25.00
CON	AUG 13	1100	CHARITY #6	10.00
MED	SEP 3	1115	MEDICINE	19.99
TAX	SEP 30	1125	PROPERTY TAX	1000.00
CON	OCT 15	1140	CHARITY #7	10.00
CON	NOV 3	1155	CHARITY #8	15.00
CON	DEC 5	1165	CHARITY #9	13.75
MED	DEC 10	1170	DOCTOR	55.00
INT	DEC 31	MORT	MORTGAGE INT	10000.00

TOTAL: 12381.74

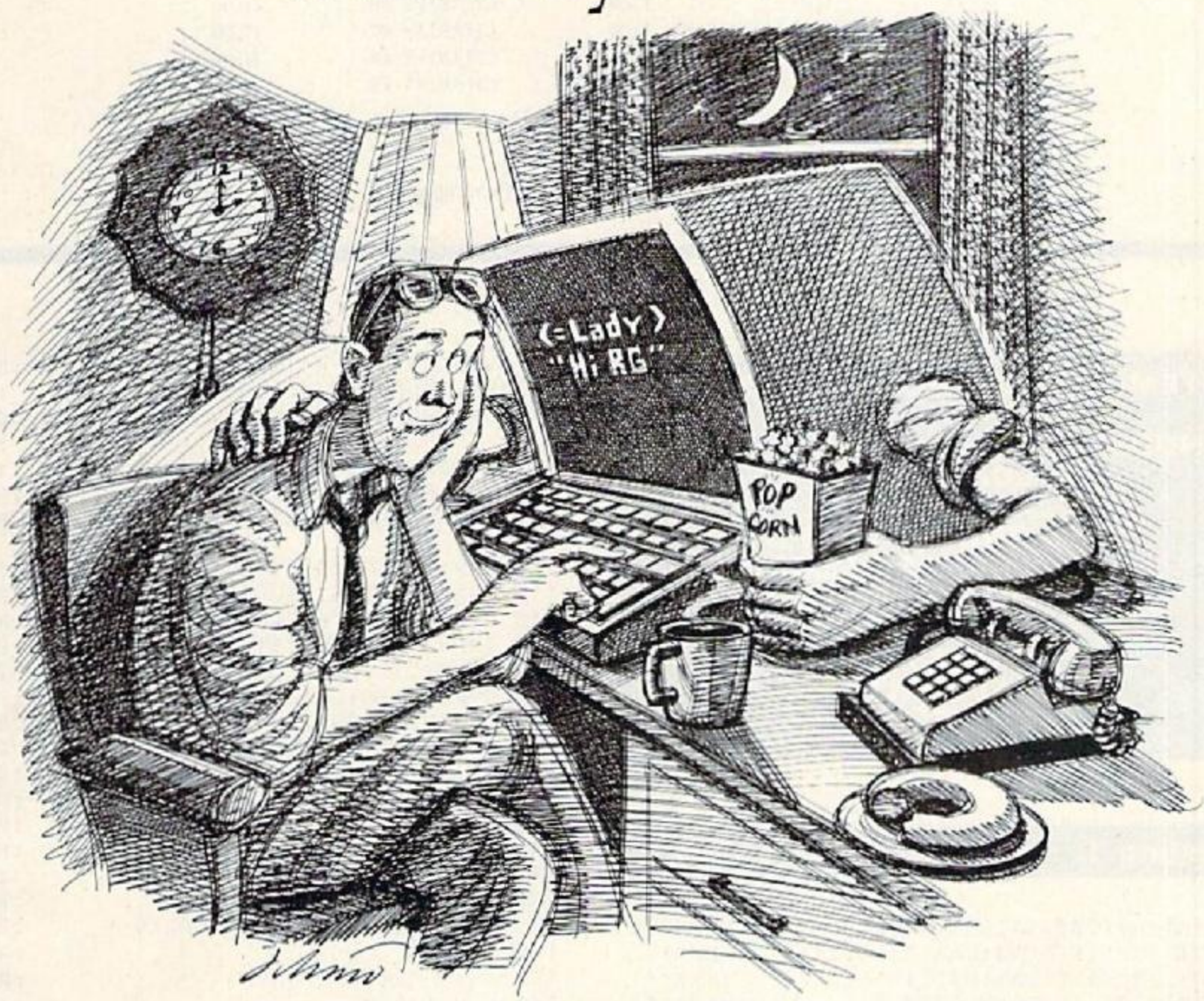
Table 3. *Sample printout of all a file's records.*

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

GE introduces GEnie. Your low cost way to get on-line, and stay there.*



Imagine having access to quality personal computing SIGs, software, CB simulation, E-Mail and games at 1200 baud. But paying only a 300 baud rate.

Here's GEnie™!

GEnie stands for the General Electric Network for Information Exchange. It's a part of General Electric Information Services—the world's largest commercial teleprocessing network. And now the power of GEnie is available to the home computer user.

Now! Up to 2400 baud.

GEnie can take you to new highs in speed and keep you there. Because our non-prime time rate for 300 or 1200 baud is only $5.00* an hour. That's up to 60% less than you're paying now. Or, you can go where few have gone before—with GEnie's new 2400 baud service.**

So when you're wrapped up in a computer group, or heavily into serious conversation, you can keep your eyes on the screen, not on the clock. (More good news: no minimum monthly charges, and the sign-up fee is just $18.00.)

What wishes Can GEnie grant?

GEnie has most everything. Including LiveWire™ CB simulator, RoundTable™ SIGs, bulletin boards, GE Mail,™ classic games like Castle-Quest™ and BlackDragon,™ conference rooms, newsletters and more.

Sign up from your keyboard: 1-800-638-8369.

Just have your VISA, MasterCard or checking account number ready. Set your modem for half duplex, 300 or 1200 baud. Upon connection enter HHH then press RETURN. At the U#=prompt enter 5JM11962, GENIE and press RETURN. (For additional information or assistance call 1-800-638-9636, ext. 21.)

Then get on-line with GEnie. And stay longer, for less.

INFORMATION SERVICES

General Electric Information Services Company, U.S.A.

*Rate applies to 300 or 1200 baud, Mon.-Fri., 6 PM to 8 AM, local time, all day Sat., Sun. and nat'l holidays. Subject to service availability. **Additional hourly surcharge applies to 2400 baud service.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

ITEMIZED TAX DEDUCTIONS
CONTRIBUTIONS

CAT	DATE	CHECK#	DESCRIPTION	AMOUNT
CON	JAN 2	900	CHARITY #1	10.00
CON	FEB 10	950	CHARITY #2	25.00
CON	MAR 10	980	CHARITY #3	15.00
CON	MAR 15	1000	CHARITY #4	10.00
CON	JUL 11	1083	CHARITY #5	25.00
CON	AUG 13	1100	CHARITY #6	10.00
CON	OCT 15	1140	CHARITY #7	10.00
CON	NOV 3	1155	CHARITY #8	15.00
CON	DEC 5	1165	CHARITY #9	13.75

TOTAL: 133.75

Table 4. *Sample printout of a file by category.*

```
ITEMIZED TAX DEDUCTIONS

CHOOSE:
        1. LOAD DATA
        2. ADD RECORD
        3. FIND A RECORD
        4. CHANGE RECORD
        5. DELETE RECORD
        6. DISPLAY FILE
        7. PRINT FILE
        8. SAVE DATA
        9. END PROGRAM
```

Listing 1. *Itemized Tax Deductions program for the C-64.*

```
5 N=Ø:DIMA$(2ØØ,5),CA$(5),C$(6)          :REM*95
1Ø FORI=1TO5:READA$:CA$(I)=A$:NEXT :REM*172
11 FORI=1TO6:READA$:C$(I)=A$:NEXT   :REM*41
15 POKE53281,15:POKE5328Ø,12          :REM*1Ø3
2Ø PRINT"{SHFT CLR}{CTRL 1}"TAB(9)"{CTRL 9}
   ITEMIZED TAX DEDUCTIONS"           :REM*2Ø6
25 PRINT"{2 CRSR DNs}CHOOSE:{2 CRSR DNs}"
                                      :REM*59
3Ø PRINTTAB(5)"1.{2 SPACEs}LOAD DATA
                                      :REM*236
35 PRINTTAB(5)"2.{2 SPACEs}ADD RECORD
                                      :REM*153
36 PRINTTAB(5)"3.{2 SPACEs}FIND A RECORD
                                      :REM*174
4Ø PRINTTAB(5)"4.{2 SPACEs}CHANGE RECORD
                                      :REM*13Ø
45 PRINTTAB(5)"5.{2 SPACEs}DELETE RECORD
                                      :REM*133
5Ø PRINTTAB(5)"6.{2 SPACEs}DISPLAY FILE
                                      :REM*5Ø
55 PRINTTAB(5)"7.{2 SPACEs}PRINT FILE
                                      :REM*95
6Ø PRINTTAB(5)"8.{2 SPACEs}SAVE DATA
                                      :REM*2ØØ
65 PRINTTAB(5)"9.{2 SPACEs}END PROGRAM
                                      :REM*117
75 GETK$:IFK$=""THEN75                :REM*15
8Ø K=VAL(K$):IFK<1ORK>9THEN75         :REM*132
85 IFK=9THENSYS2Ø48:END               :REM*67
9Ø ONKGOSUB1ØØ,2ØØ,7ØØ,3ØØ,4ØØ,5ØØ,6ØØ,8ØØ
                                      :REM*92
95 GOTO2Ø                             :REM*27
99 -----REM LOAD DATA-----           :REM*253
1ØØ PRINT"{SHFT CLR}LOAD-":F1=Ø:GOSUB2ØØØ
                                       :REM*4
1Ø5 IFF1THENOPEN2,1,Ø,FL$:GOTO135    :REM*67
11Ø OPEN15,8,15,"IO"                 :REM*216
115 OPEN2,8,2,"Ø:"+FL$+",S,R"        :REM*1Ø7
12Ø INPUT#15,E,E$,E1,E2              :REM*196
125 PRINT"{2 CRSR DNs}{CTRL 9}DISK STATUS:{
    CTRL Ø}"E;E$;E1;E2               :REM*253
13Ø IFETHENCLOSE2:CLOSE15:PRINT"{2 CRSR DNs
    }FILE NOT LOADED":GOSUB3ØØØ:RETURN
                                     :REM*246
135 INPUT#2,N                        :REM*183
14Ø FORI=1TON                        :REM*128
145 FORJ=1TO5                        :REM*255
15Ø INPUT#2,A$(I,J)                   :REM*88
17Ø NEXT:NEXT                        :REM*174
175 CLOSE2:IFF1=ØTHENCLOSE15         :REM*115
18Ø RETURN                           :REM*238
199 -----REM ADD DATA-----           :REM*221
2ØØ N=N+1:X=N                         :REM*52
21Ø PRINT"{SHFT CLR}"                :REM*2ØØ
22Ø GOSUB4ØØØ                        :REM*2Ø2
23Ø INPUT"ANY MORE ENTRIES";I$       :REM*156
24Ø IFLEFT$(I$,1)="Y"THEN2ØØ         :REM*254
25Ø RETURN                            :REM*52
299 -----REM CHANGE RECORD-----      :REM*142
3ØØ PRINT"{SHFT CLR}":FL=Ø:F=3       :REM*159
31Ø INPUT"CHECK# TO BE CHANGED";N$   :REM*117
315 GOSUB1ØØØ:IFFL=1THENRETURN       :REM*188
32Ø GOSUB4ØØØ:RETURN                 :REM*219
399 -----REM DELETE-----             :REM*18Ø
4ØØ PRINT"{SHFT CLR}":FL=Ø:F=3        :REM*3
41Ø INPUT"CHECK# TO BE DELETED";N$    :REM*57
415 GOSUB1ØØØ:IFFL=1THENRETURN        :REM*32
42Ø N=N-1                             :REM*27
425 FORI=XTON                        :REM*132
43Ø FORJ=1TO5                         :REM*29
435 A$(I,J)=A$(I+1,J)                :REM*196
455 NEXT:NEXT                        :REM*2Ø4
46Ø PRINT"{CRSR DN}RECORD DELETED.":REM*195
47Ø GOSUB3ØØØ:RETURN                 :REM*1Ø5
```

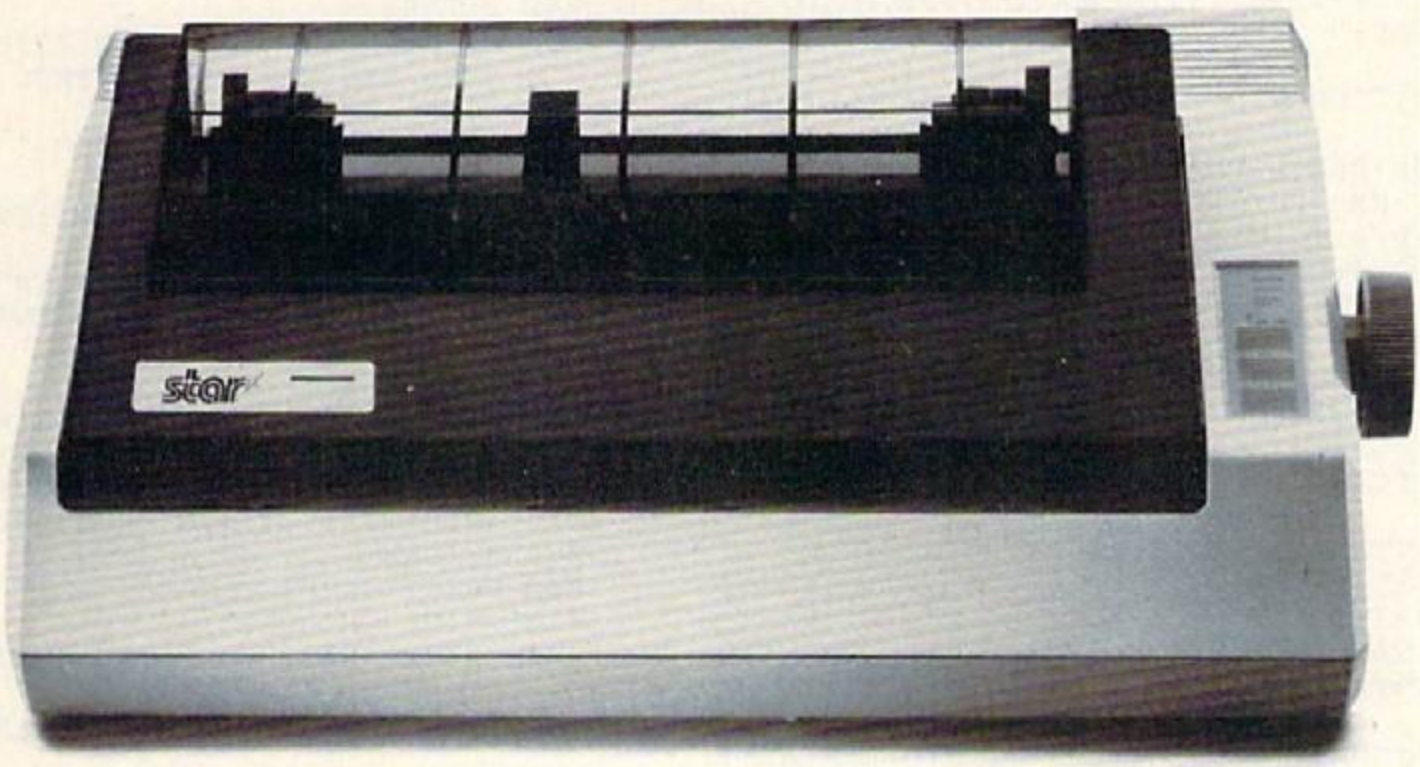
→

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

A BRIGHT NEW STAR FOR A COMMODORE TO PRINT BY



Now you can own a sophisticated, affordable printer that's made just for your C-64.™

Here's a dual-mode Star printer that delivers 120 cps draft and 30 cps *near-letter-quality*. With outstanding graphics ability. Interface cable. And friction and tractor feed. All standard.

And it's the best-selling printer for the best-selling home computer!

Star's made-for-Commodore® printer needs no add-ons. Just plug it into your computer and go to work. It's made at a price that can't be beat.

You've got the computer. Now get everything out of it. Get the Star that's labelled "C." There's no better mate made for a Commodore.

star® micronics

Commodore and C-64 are trademarks of Commodore Business Machines, Inc. and/or Commodore Electronics Ltd.

Circle 92 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
499 -----REM VIEW DATA-----          :REM*52
500 R=0:F=0:J=0:TL=0:GOSUB5000       :REM*221
505 PRINT"{SHFT CLR}"                :REM*240
510 PRINT"CAT DATE{4 SPACEs}CK#{3 SPACEs}DF
    SCRIPTION{6 SPACEs}AMT"          :REM*175
515 FORI=1TO39:PRINT"{COMD Y}";:NEXT:PRINT
                                     :REM*153
520 FORI=1TON                        :REM*254
535 IFR=2THENIFN$<>A$(I,F)THEN575    :REM*85
540 J=J+1                            :REM*36
545 PRINTA$(I,1);                    :REM*179
550 PRINTTAB(4)A$(I,2);              :REM*110
555 PRINTTAB(12)A$(I,3);             :REM*25
560 PRINTTAB(18)LEFT$(A$(I,4),12);   :REM*12
561 PRINTTAB(39-LEN(A$(I,5)))A$(I,5)
                                     :REM*119
565 TL=TL+VAL(A$(I,5))               :REM*23
570 IFJ/15=INT(J/15)THENGOSUB3000:PRINT"{SH
    FT CLR}"                         :REM*172
575 NEXT                             :REM*75
580 PRINT"{CRSR DN}{CTRL 9}TOTAL:{CTRL 0}"T
    L                                :REM*84
585 GOSUB3000:RETURN                 :REM*221
599 -----REM PRINT DATA-----         :REM*77
600 R=0:F=0:TL=0:GOSUB5000           :REM*40
605 OPEN2,4:CMD2                     :REM*69
607 PRINTTAB(25)"ITEMIZED TAX DEDUCTIONS":P
    RINT                             :REM*233
608 IFR=2ANDF=1THENPRINTTAB(35-(LEN(C$(G)))
    /2);C$(G):PRINT                  :REM*100
610 PRINTTAB(5)"CAT"SPC(5)"DATE"SPC(7)"CHEC
    K#"SPC(7)"DESCRIPTION"SPC(15)"AMOUNT"
                                     :REM*38
615 PRINTTAB(5);:FORI=1TO64:PRINT"{COMD Y}"
    ;:NEXT:PRINT                     :REM*25
620 FORI=1TON                        :REM*98
625 IFR=2ANDN$<>A$(I,F)THEN675       :REM*199
645 PRINTTAB(5);A$(I,1);TAB(5)A$(I,2);
                                     :REM*235
650 PRINTCHR$(16)"25";:PRINTTAB(5-LEN(A$(I,
    3)))A$(I,3);                     :REM*132
655 PRINTCHR$(16)"37"A$(I,4);        :REM*205
660 PRINTCHR$(16)"60";:PRINTTAB(9-LEN(A$(I,
    5)))A$(I,5)                      :REM*222
665 TL=TL+VAL(A$(I,5))               :REM*123
675 NEXT                             :REM*175
680 PRINT:PRINTTAB(25)"TOTAL:"TL     :REM*236
685 PRINT#2:CLOSE2:RETURN            :REM*147
699 -----REM FIND A RECORD-----      :REM*251
700 GOSUB5070                        :REM*148
710 GOSUB1000                        :REM*158
720 RETURN                           :REM*12
799 -----REM SAVE DATA-----           :REM*4
800 PRINT"{SHFT CLR}SAVE-":F1=0:GOSUB2000
                                     :REM*173
805 IFF1THENOPEN2,1,1,FL$:GOTO835    :REM*38
810 OPEN15,8,15,"IO"                 :REM*151
815 OPEN2,8,2,"@0:"+FL$+",S,W"       :REM*50
820 INPUT#15,E,E$,E1,E2              :REM*131
825 PRINT"{2 CRSR DNs}{CTRL 9}DISK STATUS:{
    CTRL 0}"E;E$;E1;E2               :REM*188
830 IFETHENCLOSE2:CLOSE15:PRINT"{2 CRSR DNs
    }FILE NOT SAVED.":GOSUB3000:RETURN
                                     :REM*157
835 PRINT#2,N                        :REM*198
840 FORI=1TON                        :REM*63
845 FORJ=1TO5                        :REM*190
850 PRINT#2,A$(I,J)                  :REM*103
870 NEXT:NEXT                        :REM*109
875 CLOSE2:IFF1=0THENCLOSE15         :REM*50
880 RETURN                           :REM*173
999 *****REM SORT RECORDS*****       :REM*124
1000 FORX=1TON                       :REM*87
1010 IFN$<>A$(X,F)THEN1030           :REM*243
1015 PRINT:FORI=1TO5:PRINTA$(X,I):NEXT
                                     :REM*164
1020 INPUT"{CRSR DN}IS THIS THE RECORD";I$
                                     :REM*223
1025 IFLEFT$(I$,1)="Y"THENRETURN     :REM*177
1027 PRINT"{SHFT CLR}"               :REM*253
1030 NEXT                            :REM*20
1035 PRINT"{CRSR DN}RECORD NOT FOUND":GOSUB
    3000:FL=1:RETURN                 :REM*235
1999 -----REM FILENAME INPUT-----    :REM*34
2000 INPUT"{CRSR DN}{CTRL 9}FILENAME:{CTRL
    0}";FL$                          :REM*77
2010 INPUT"{CRSR DN}{CTRL 9}D{CTRL 0}ISK OR
     {CTRL 9}T{CTRL 0}APE:";K$       :REM*129
2020 IFK$<>"D"ANDK$<>"T"THEN2010     :REM*125
2030 IFK$="T"THENF1=1                :REM*47
2040 RETURN                          :REM*57
3000 PRINTTAB(5)"{CRSR DN}{CTRL 9}{COMD 4}P
    RESS ANY KEY TO CONTINUE.{CTRL 0}{CTRL
     1}"                             :REM*217
3005 GETK$:IFK$=""THEN3005           :REM*24
3010 RETURN                           :REM*7
4000 PRINT:FORI=1TO6:PRINTI;C$(I):NEXT
                                     :REM*103
4001 INPUT"{CRSR DN}CATEGORY#";C$    :REM*28
4002 C=VAL(C$):IFC<1ORC>6THEN4001    :REM*99
4003 A$(X,1)=LEFT$(C$(C),3)          :REM*254
4005 FORI=2TO5                       :REM*58
4010 PRINTCA$(I)":";:INPUTA$(X,I)    :REM*215
4020 NEXT                            :REM*205
4030 INPUT"{2 CRSR DNs}CORRECT";I$   :REM*231
4040 IFLEFT$(I$,1)="N"THEN4000       :REM*243
4050 RETURN                          :REM*27
5000 PRINT"{SHFT CLR}"               :REM*145
5010 PRINT"CHOOSE:"                  :REM*175
5020 PRINTTAB(5)"{CRSR DN}1.{2 SPACEs}ALL R
    ECORDS                           :REM*117
5030 PRINTTAB(5)"2.{2 SPACEs}BY FIELD
                                     :REM*25
5040 GETR$:IFR$=""THEN5040           :REM*11
5050 R=VAL(R$):IFR<1ORR>2THEN5000    :REM*63
5060 IFR=1THENRETURN                 :REM*27
5070 PRINT"{SHFT CLR}"               :REM*215
5080 PRINT"CHOOSE:{CRSR DN}"         :REM*141
5090 FORI=1TO5                       :REM*91
5100 PRINTTAB(5)I".{2 SPACEs}"CA$(I):NEXT
                                     :REM*115
5120 GETF$:IFF$=""THEN5120           :REM*54
5130 F=VAL(F$):IFF<1ORF>5THEN5070    :REM*222
5135 IFF=1THEN5155                   :REM*201
5140 PRINT"{CRSR DN}ENTER "CA$(F);:INPUTN$
                                     :REM*144
5150 RETURN                          :REM*108
5155 PRINT:FORI=1TO6:PRINTI;C$(I):NEXT
                                     :REM*239
5160 INPUT"{CRSR DN}CATEGORY#";G$    :REM*172
5165 G=VAL(G$):IFG<1ORG>6THEN5160    :REM*191
5170 N$=LEFT$(C$(G),3)               :REM*226
5175 RETURN                          :REM*133
6000 DATA CATEGORY, DATE, CHECK#, DESCRIPTI
    ON, AMOUNT                       :REM*23
6010 DATA MEDICAL, TAXES, INTEREST, CONTRIB
    UTIONS, CASUALTY/THEFT           :REM*143
6020 DATA MISCELLANEOUS              :REM*29
9000 OPEN15,8,15,"S0:TAX DED":CLOSE15:SAVE"
    @0:TAX DED",8                    :REM*25
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

FOR COMMODORE 128 AND C-64 OWNERS ONLY:

BLITZ!™

Circle 90 on Reader Service card.

If your programs are slow, BLITZ!™ them

It's Spectacular
Bob has discovered a spectacular compiler for the **Commodore 64** and the **Commodore 128** that he calls ***BLITZ!***

It's Fast
BLITZ! is faster than *PET SPEED*, faster than any other Commodore compiler that has come down the pike. Your ***BLITZ!***-compiled program will run from *five to 20 times* faster than it did before you blitzed it.

It Translates
This disk program translates your slow BASIC programs into a much, much faster code. The ***BLITZ!*** compiler significantly improves the performance of your BASIC routines. It reads the entire program, reduces that program's size by deciding which operations need to only run once, interprets the operations, and then re-writes the program into its own special P-code.

It's Protective
For more advanced programmers, the ***BLITZ!*** compiler offers another benefit besides speed. It provides an almost infinite number of ways to add protection to your programs, because a compiled program is not readable. So security is inherent in the re-writing!

C-64 or C-128

It's a Treasure
Using this compiler, you can now create a string of BASIC programs such that one automatically loads the next. You can also pass information from one program to another. You will find the ***BLITZ!*** compiler a treasured tool in your programming kit.

It's Popular
Reviewers and users have heaped the following praise on the ***BLITZ!***: "The ***BLITZ*** basic compiler is a dream come true for BASIC programmers." Compute!'s Gazette Jan 1985 "worth its weight in gold." TPUG Mar. 1985. "Wonderful" "Fantastic" "I can't imagine programming without it" User comments. It is even more popular with professional programmers. Many commercial programs now say "***BLITZ!***" when they are listed. The ultimate accolade for ***BLITZ!***.

		FALL SALE
***BLITZ!* C-128, Disk**	$129.00	99.95*
***BLITZ!* C-64, Disk**	99.00	49.95*

TaxWare™ now available for Commodore 128

It's Available
TaxWare, the most comprehensive, easy to use, all year around record keeping and tax preparation system available for the **Commodore 128**. Better yet, both the improved **C-64** and **C-128** versions of this popular package are available in one comprehensive package.

It's Faster
Both versions of **TaxWare** have been speeded up using ***BLITZ 64*** and ***BLITZ! 128*** compilers. To the best of our knowledge **TaxWare** is the fastest **C-64** and **C-128** tax preparation system available anywhere.

It's Comprehensive
TaxWare handles itemized deductions, income averaging, dividends, stocks, self-employment, rents, royalties, childcare, marriage deductions and much, much more. **TaxWare** includes forms 1040, 2442, and Schedules A, B, C, D, E, G, and W.

C-64 or C-128

TaxWare stores and calculates all in one program, eliminating the need for separate database programs to store some tax items or forms.

It's Easy
HELP SCREENS are available at the touch of a button from anywhere within the **TaxWare** program. At the touch of a button, many forms are printed out in I.R.S. approved format, for direct submission. We can't make the payment any easier, but the preparation couldn't be easier with **TaxWare**.

It's Available Now
TaxWare is available now from Skyles Electric Works or your favorite local dealer. Call us at **1-800-227-9998** or **1-415-965-1735** and we will rush a **TaxWare** to you by return mail.

	TAX SALE
TaxWare, C-64 or C-128, 1541 or 1571	$49.95*

So many cartridges, so little space . . .

Skyles Electric Works to the rescue, with our **2+1**™ and **4+1**™ expansion boards for the C-64. Briefly the **2+1** gives you 2 vertical and 1 horizontal fully switchable cartridge ports. The **4+1** continues the tradition with 4 vertical and 1 horizontal cartridge ports. See the inside front cover for more details.

		FALL SALE
Skyles 2+1 Expansion Bd. C-64	$49.95	39.95*
Skyles 4+1 Expansion Bd. C-64	$89.95	69.95*

*There is an additional $4.50 U.S. and Canada, $15.00 Europe and Asia, shipping charge per order. California residents add sales tax.

NOW SHOWING AT SKYLES ELECTRIC WORKS

From Skyles Electric Works, the oldest and largest professionals in the business.

This is just a few of the 200+ bargains from the newest and biggest Skyles catalog, hot off the press.

We know you'll want this page, in its full splendor, and the other pages overflowing with over 200 bargains in peripherals, software, and books that will make your Commodore 128 or C-64 computer even nicer to live with.

So, if we missed sending you your very own copy within the last few weeks, call us at 1-800/227-9998, unless you live in California, in which case call 1-415/965-1735.

Skyles Electric Works
231E South Whisman Road
Mountain View, CA 94041
(415) 965-1735

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

New Names for Old Disks

By ROBERT DICKOW

The 1541's disk operating system (DOS) provides a fairly comprehensive set of commands. However, it doesn't include a command for renaming a disk, at least not without destroying all the files on it.

Fortunately, the accompanying disk utility (Listing 1) remedies this problem, letting you rename your disks as often as you like without damaging them.

Type in the program; save and run it. It will wait for you to place a disk in the drive, then prompt you to enter the new disk name, which can be up to 16 characters long. After you've done this, you may press the return key to verify the change or insert another disk and repeat the process.

If at some point you decide not to make the change, hit the left-arrow key. The only way of editing your new name is via the INST/DEL key. In any case, all the necessary user information is displayed on the screen after you run the program. When testing this program and correcting any typing errors, I suggest you use an old scratch disk.

The 1541's disk operating system doesn't provide a command for renaming disks. But we do . . .

To see how the program works, study the commands in lines 230 and 410 to 440. You can find a description of these commands in your disk drive owner's manual in the section on random-access files. A number of these commands can be used to access any byte on the disk, and reading bytes is as easy as writing them.

Following is a description of how to read a byte from the disk. First, you must open the command channel with the statement:

```
OPEN 15,8,15
```

Command channel 15 is needed for locating the bytes you want later on and for reading the I/O errors. A buffer is then set up for a block of data. Open a channel to access the data:

```
OPEN fl, dv, ch, "#"
```

The fl is the file number; dv is the device number (8, usually); and ch is the channel number (any number from 2 to 14). Now, pull the block of data you want into the drive RAM buffer with:

```
PRINT#15, "UA:";dv;0;tr;bl
```

This last command works the same as the User1, or U1, command, and it's similar to the Block Read command. The tr and bl stand for the track and sector you want to access. The dv is, of course, the device number, normally 8.

Finally, point to the byte you want to retrieve with the Buffer Pointer command as follows:

```
PRINT#15, "B-P:";ch;x
```

The x is the number of the byte (1

RUN It Right

C-64; C-128 (in C-64 mode)
1541 disk drive

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 61 on Reader Service card.

Now Available Through Aquarian Software

Gold Disk Series

Volumes 1 through 11 Now Available!!!

Volume 11 Features a C-64 Assembler

Each Disk Contains:

- The Monthly Feature Program
- Programming Tutorials
- High Quality Games
- And Much More

Gold Disk Series for 128
Coming Soon!

Only $14.95 Per Disk*

* Plus Shipping and Handling

The Cataloger

The Ultimate Disk Cataloging System for the 64!

Features of The Cataloger V3.5A include:

- ★ Loads directly from the disk itself.
- ★ Ability to change name of entry.
- ★ Fast — Uses relative files exclusively
- ★ Search, Sort and Print by any of 12 fields.
- ★ 1100-program (or disk) capacity per data disk.
- ★ All machine language.
- ★ Menu driven — very easy to use.
- ★ Works with one or two drives.

Only $24.95

BobsTerm Pro

The Ultimate Terminal Software !

Upload / Download Supports Punter, X-Modem, XON / XOFF, DC1 / DC2, and Much More!

28.5 Byte Buffer with unmatched editing abilities

- User Adjustable Parameters
- 10 Custom Character Sets
- Unlimitied Phone Book Storage
- Programmable Macro Command Strings

Only $59.95

MATRIX — NOW AVAILABLE!!

The Indispensable C-128 Utility / Starter Kit !

Use **dozens** of 128 features in the 64 mode:

- Numeric Key Pad
- Cursor Keys
- 80-Column RGB Output
- Many Other Special Function keys

One-Key Functions Include:

- **2 Megahertz "Fast Mode"**
- **One-Key Screen Dumps**
- **Full-Featured DOS Utility Menu**

Other Features Include:

- Fast Loading
- Fast Copy For The 1571!
- Relocatable In Memory
- 100% Transparent to BASIC

Available Now For Only $59.95

Graphic Screen Exporter

A Universal Graphics Converter !
Converts Anything to Anything — Including:

Koala Pad	Doodle
Flexidraw	Print Shop
COMAL	Paint Magic
CAD GEM	Micron Eye

And Many Many More ! !

The Most Versatile Graphics Utility Ever Released for the Commodore 64 !

Only $29.95

ALSO AVAILABLE:

OmiTerm.....$19.95
Full-Feature Terminal at an Affordable Price!
Turbo Calc/64.....$17.95
A great spreadsheet at an Unbelievable Price!
Tax Computation.....$29.95
The friendliest tax package on the market.
Guitar Master.....$49.95
A comprehensive musical instruction package
Fast Boot!.....$14.95
Mike J. Henry's Fast Loader for 1541/MSD
Thriller Collection.....$24.95
Seven intricate text adventures on one disk

Call or Write for Full Catalog !

CAD-GEM

Computer Assisted Design
Graphic Element Manipulation

A Wire Frame CAD system for the C64 !
Input from Joystick, Track Ball, Light Pen or Graphics Tablet
360 Degree Rotation in .1 Degree Increments
Scaling on a 64K x 64K, 2048 Mega-Bit Virtual Screen
Independent Manipulation of 400 Objects (Points or Lines)

You must see CAD GEM to believe it!
Demo Disk Available for $3.00

$89.95

MODEM MASTER

The Friendliest Commodore BBS Available

- Works with 1541 or MSD Dual Drive
- 300 / 1200 Baud Operation
- New Punter File Transfer Protocol
- Sub-Directories for File Transfer
- 250 User Capacity
- Accurate Clock / Calendar
- Printer Output
- Information Files
- "Old" E-Mail Deleted After One Week
- Set Up In Only 10 Minutes !

Only $29.95

Total Software Development System

by Kevin Pickell
Now Available in the States !

Assembler/Editor — fast load, get, log and loadat; adds 38 new commands; full macro instructions; allows 13-character labels; assembles to and from disk
Sprite Editor — 256 sprites in memory, view 64 at same time, works with keyboard, joystick or trackball, animates sprites during design
Unassembler — create source code from any ML program
Sound Editor — create interrupt-driven sound effects
Character Editor — edit all characters. Screens to 255x64. Hi-res & Multi-color Character Sets
TSDS automatically includes sprites, characters, mattes and sound effects into source code!

Only $39.95
128 Version Coming Soon !

Aquarian Software
P.O. Box 22184
Portland, OR 97222

VISA

To order, Call: (503) 654-2641
VISA & MasterCard Accepted

MasterCard

Add 3.00 S & H Per Order
(Add Additional $2.00 for COD)
Canadian Orders Add 10.00 S&H
Allow 3-4 Weeks For Delivery

Write or Call for Full Catalog — Dealer Inquiries Welcome !

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

to 256) that will start the byte-retrieving process, and ch is the channel number used when the data channel is first opened. To recover the disk name, you need to look in track 18, sector 0. This block houses the block-availability map, or BAM. The disk name follows immediately after the BAM data.

There, starting with the 144th byte of track 18, sector 0, and for 16 bytes following, you can find the name. The lower locations in the BAM are important, as they indicate to the DOS where free blocks for saving files are located. Therefore, you must be careful not to write data there accidentally!

From this point on, just use the Get# command to retrieve each successive byte of data. You can then display the data on the screen, transfer it to another file or perform any number of operations.

The process of writing data to the disk is similar to the process of reading data from it. When reading, however, use the USER2 (or U2 or UB) command after outputting to the datafile via the Print# command. Finally, close the data channel and then the command channel.

The commands discussed in this article can open up a new world of disk exploration for you. Try writing a program that will access blocks of data from the disk drive and allow the user to edit any byte. You can also change the loading address of machine language programs, change sequential files to program files (and vice versa), and even change filenames. Enjoy. R

Address all author correspondence to Robert Dickow, 2095 Rambler Road, Lexington, KY 40503.

Listing 1. *Name Changer program.*

```
1 REM ************************          :REM*25
2 REM * DISK NAME CHANGER *            :REM*206
3 REM *{8 SPACEs}BY{9 SPACEs}*         :REM*109
4 REM *{4 SPACEs}BOB DICKOW{5 SPACEs}*
                                       :REM*136
5 REM ************************          :REM*29
6 :                                    :REM*238
7Ø REM --INITIALIZE & DISPLAY SCREEN--
                                       :REM*7Ø
8Ø Q$=CHR$(34): AR$=CHR$(95): BK$=CHR$(2Ø):
    DE$="{CRSR LF}-{CRSR LF}": CH$=CHR$(221
   )                                   :REM*24Ø
9Ø BX$="{11 SPACEs}{SHFT U}{16 SHFT *s}{SHF
   T I}":BY$="{11 SPACEs}{SHFT J}{16 SHFT *
   s}{SHFT K}"                         :REM*214
1ØØ DH$=CHR$(166):FORX=1TO4Ø:LN$=LN$+DH$:NE
   XT:R$=CHR$(13): DISK=8              :REM*1Ø4
11Ø FORX=1TO16:SP$=SP$+CHR$(16Ø):BL$=BL$+"-
   ":NEXT                              :REM*2
12Ø PRINT"{SHFT CLR}{CRSR DN}{CTRL 8}{9 SPA
   CEs}***DISK NAME CHANGER***{CTRL 2}"
                                       :REM*18
13Ø PRINT:PRINT"{4 SPACEs}"Q$;AR$;Q$" = ABO
   RT THE CHANGE OR EXIT"              :REM*24
14Ø PRINT"{4 SPACEs}"Q$"INST/DEL"Q$" = DELE
   TE A CHARACTER"                     :REM*6
15Ø PRINT"{4 SPACEs}HIT "Q$"RETURN"Q$" KEY
   TO ENTER CHANGE.":PRINT             :REM*2Ø4
16Ø PRINTLN$                           :REM*2Ø8
17Ø PRINT" INSERT DISK & HIT ";Q$;"RETURN"Q
   $" WHEN READY"                      :REM*236
18Ø CU=Ø: GOSUB 52Ø                    :REM*76
19Ø IFA$=AR$ THEN PRINT"{SHFT CLR}":END
                                       :REM*64
2ØØ IFA$<>R$ THENPRINT"{CRSR UP}";:GOTO17Ø
                                       :REM*2Ø6
21Ø OPEN 15,8,15:PRINT#15,"IØ":GOSUB 57Ø
                                       :REM*96
22Ø REM --GET DISK NAME FROM BAM--     :REM*48
23Ø B$="": OPEN8,DI,8,"#":PRINT#15,"UA:";8;
   Ø;18;Ø:PRINT#15,"B-P:";8;144        :REM*12
24Ø FORX=1TO2Ø:GET#8,A$:B$=B$+A$:NEXT
                                       :REM*118
25Ø CLOSE8: CLOSE 15                   :REM*22Ø
26Ø NM$=LEFT$(B$,16):ID$=RIGHT$(B$,2)
                                       :REM*25
27Ø PRINT"{CRSR UP} CURRENT DISK NAME: {CTR
   L 9}"NM$;",";ID$:B$=""              :REM*95
28Ø PRINT"{CTRL 9}{CRSR DN}{2 SPACEs}TYPE N
   EW DISK NAME (16 CHRS MAXIMUM): ":PRINT
    BX$                                :REM*245
29Ø PRINT SPC(11);CH$;BL$;CH$:PRINTBY$:PRIN
   T"{2 CRSR UPs}";SPC(12);            :REM*11
3ØØ CU=1:GOSUB52Ø                      :REM*229
31Ø IFA$=R$ AND PEEK(211)<>28THEN PRINT"-{C
   RSR LF}";:GOTO 41Ø                  :REM*225
32Ø Z=LEN(B$):IFA$=R$ THEN 41Ø         :REM*143
33Ø IF A$=BK$ AND Z=Ø THEN3ØØ          :REM*225
34Ø IFA$=BK$ANDPEEK(211)=28THENPRINT CH$"{C
   RSR LF}";DE$;:B$=LEFT$(B$,Z-1):GOTO3ØØ
                                       :REM*155
35Ø IFA$=BK$THEN PRINT"-{CRSR LF}";DE$;:B$=
   LEFT$(B$,Z-1):GOTO3ØØ               :REM*193
36Ø IFA$=AR$ THEN B$="":PRINT:PRINT"{CRSR U
   P}{CTRL 9}ABORTED":GOTO 48Ø         :REM*107
37Ø IFA$="{CRSR UP}"ORA$="{CRSR DN}"ORA$="{
   HOME}"ORA$="{SHFT CLR}"ORA$="{CRSR RT}"
   ORA$="{CRSR LF}"THEN3ØØ             :REM*135
38Ø IFZ<16THENB$=B$+A$:CU=1:PRINTA$;:REM*73
39Ø Z=LEN(B$):GOTO3ØØ                  :REM*211
4ØØ REM --WRITE TO DISK ROUTINE--      :REM*27
41Ø OPEN15,DI,15:OPEN 8,DI,8,"#":FORX=1TO2:
   PRINT#15,"B-P:"8;144                :REM*195
42Ø IFX=1THENPRINT#8,SP$;:NEXT         :REM*247
43Ø PRINT#8,B$;                        :REM*133
44Ø PRINT#15,"U2:"8;Ø;18;Ø:GOSUB 57Ø
                                       :REM*1Ø1
45Ø CLOSE8:CLOSE15                     :REM*165
46Ø PRINT:PRINTSPC(2Ø);"{6 CRSR UPs}{CTRL 9
   }";B$;                              :REM*2Ø9
47Ø PRINTRIGHT$(SP$,16-LEN(B$));","ID$;"{5
   CRSR DNs}"                          :REM*5
48Ø PRINT:PRINT SPC(12)"{CTRL 9}CONTINUE?{2
    SPACEs}(Y/N){4 CRSR LFs}";:CU=1:GOSUB5
   2Ø                                  :REM*197
49Ø IFA$="Y" OR A$=R$ THEN POKE 2Ø4,1:PRINT
   :GOTO12Ø                            :REM*55
5ØØ PRINT:END                          :REM*53
51Ø REM --INPUT SUBROUTINE--           :REM*3
52Ø GETA$:IF CU THEN POKE 2Ø4,Ø:POKE 2Ø7,Ø
                                       :REM*166
53Ø IF CU AND A$="" AND PEEK(211)=28 THEN C
   U=Ø:POKE2Ø4,1:PRINT CH$"{CRSR LF}";
                                       :REM*78
54Ø IF A$=""THEN 52Ø                   :REM*228
55Ø POKE2Ø4,1:RETURN                   :REM*158
56Ø REM --ERROR CHECK SUBROUTINE--     :REM*218
57Ø INPUT#15,E,E$,T,S                  :REM*38
58Ø IFE>=2ØTHENPRINT:PRINT"{CRSR DN}ERROR#"
   E;"{CTRL 9}"E$:CLOSE8:CLOSE 15:END
                                       :REM*36
59Ø RETURN                             :REM*138
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

BACK ISSUES

January 1985—Create Your Own Games. How to select the right printer. Valuable disk tips for beginners.

February 1985—Joysticks: which ones to buy and how to use them in your own programs. Learn how to start a Commodore user's group. Fly the Grand Canyon with your VIC.

March 1985—Shape Up with Your C-64: reviews of fitness and nutrition programs. Mini-Calc spreadsheet and Money Manager programs. Word processors reviewed.

April 1985—First installment of assembly language series. Easy-to-use scroll subroutine. Simon's Basic. Build your own computer sanctuary.

May 1985—First-hand look at the new C-128. Keep track of your electricity expenses. Introducing a new series on telecommunications. Datafile Update.

June 1985—Making music on the C-64. Comparative review of the C-128. Prescriptions for your disks problems. Turn your C-64's eight function keys into 12.

July 1985—High-Performance Turtle. Datafile Fast Print. Adjust your drive's motor speed. Align your disk drive. Basic 4.5.

August 1985—Two articles on the 1541 disk drive. PlayNet and PeopleLink. Byte-Size Compiler. C-64 Screen Formatter.

September 1985—Meet the Amiga. Interview with Commodore's Manager of Educational Marketing. Reviews of SAT Programs. *RUN*'s checksum program.

October 1985—Hi-res drawing program. Sprite editor. E-Mail Terminal. Combine creative designs with serious applications and text.

November 1985—Print both low- and high-resolution screens. Datafile Restructure Utility. Hardware Buyer's Guide. Eliminate your Data statement errors. Create your own tailored wedge.

December 1985—Comparative review of popular modems. Part 1 of a professional-quality terminal program. Machine language checksum program. C-128 checksum program. Datafile Structure Utility. Software Buyer's Guide, Part 1.

RUN

Each month RUN also brings you regular columns, reviews, programs and tutorials to help you get the most enjoyment and use out of your Commodore system.

Each back issue costs $3.50 plus $1 for shipping and handling. On orders of 10 or more back issues, there is a flat $7.50 shipping and handling fee. Quantities are limited and we cannot guarantee that all back issues are available. Send your orders to *RUN*, Attn: Back Issue Orders, 80 Pine St., Peterborough, N.H. 03458.

Only NRI teaches you to service and repair all computers as you build your own 16-bit IBM-compatible micro

As computers move into offices and homes by the millions, the demand for trained computer service technicians surges forward. The Department of Labor estimates that computer service jobs will actually *double* in the next ten years—a faster growth than any other occupation.

Total System Training

As an NRI student, you'll get total hands-on training as you actually build your own Sanyo MBC-550 series computer from the keyboard up. Only a person who knows *all* the underlying fundamentals can cope with *all* the significant brands of computers. And as an NRI graduate, you'll possess the up-to-the-minute combination of theory and practical experience that will lead you to success on the job.

Your NRI course includes a Sanyo 16-bit microcomputer with 128K RAM, monitor, with double-density/double-sided disk drive, and "Intelligent" Keyboard; The NRI Discovery Lab®, Teaching Circuit Design and Operations; a Digital Multimeter; Bundled Spread Sheet and Word Processing Software Worth over $1000 at Retail—and More.

NRI is the only home study school that trains you as you assemble a top-brand computer. You'll install and check keyboard, power supply, disk drive and monitor, following step-by-step directions.

You learn at your own convenience, in your own home, at your own comfortable pace. Without classroom pressures, without rigid night-school schedules, without wasted time. Your own personal NRI instructor and NRI's complete technical staff will answer your questions, give you guidance and special help whenever you may need it.

The Exciting Sanyo 16-bit IBM compatible Computer—Yours To Keep

Critics hail the new Sanyo as the "most intriguing" of all the IBM-PC compatible computers. It uses the same 8088 microprocessor as the IBM-PC and the MS/DOS operating system. So, you'll be able to choose thousands of off-the-shelf software programs to run on your completed Sanyo.

As you build the Sanyo from the keyboard up, you'll perform demonstrations and experiments that will give you a total mastery of computer operations and servicing techniques. You'll do programming in BASIC language. You'll prepare interfaces for peripherals such as printers and joysticks. Using utility programs, you'll check out 8088 functioning. And the entire system, including all the bundled software and extensive data manuals, is yours to keep as part of your training.

100-Page Free Catalog Tells More

Send the coupon today for NRI's big 100-page color catalog, which gives you all the facts about NRI training in Microcomputers, Robotics, Data Communications, TV/Video/Audio Servicing, and other growing high-tech career fields. If the coupon is missing write to NRI at 3939 Wisconsin Ave., NW, Washington, DC 20016.

IBM is a Registered Trademark of International Business Machines Corporation.

NRI SCHOOLS
McGraw-Hill Continuing Education Center
3939 Wisconsin Avenue, Washington, DC 20016
We'll give you tomorrow.

For Career courses approved under GI bill, ☐ check for details.

☑ CHECK ONE FREE CATALOG ONLY

- ☐ **Computer Electronics with Microcomputers**
- ☐ Data Communications
- ☐ Robotics & Industrial Controls
- ☐ Video Electronics Servicing
- ☐ Electronic Design Technology
- ☐ Digital Electronics
- ☐ Satellite Communications
- ☐ Communications Electronics
- ☐ Industrial Electronics
- ☐ Basic Electronics
- ☐ Telephone Servicing
- ☐ Small Engine Servicing
- ☐ Appliance Servicing
- ☐ Automotive Servicing
- ☐ Air Conditioning, Heating, Refrigeration, & Solar Technology
- ☐ Building Construction
- ☐ Locksmithing & Electronic Security

Name (Please Print) Age

Street

City/State/Zip Accredited by the National Home Study Council 445-026

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 189 on Reader Service card.

SPECIALS

Disk notcher $5.99
Double your disk capacity with this little tool.

Generic Disks DS/DD 79¢

FAST RAM

- Powerful all machine language program.
- Takes up only 4K of memory.
- Adds 10 new commands plus and advanced DOS wedge

Store programs or sequential in Ram for almost instant access. This gives you the advantage of having several programs in memory at the same time.
Imagine writing a game and having a sprite editor program in memory at the same time!

ONLY $19.95

MASTER LOCK

Here, at last, is a program that will protect your software programs from unauthorized duplicating. 1 to 1 million copies can be protected, fast and easy.

- Specially designed for the C-64 and 1541 Disk Drive.
- Completely encrypts and protects your programs.
- Fully compatible with almost all machine language and basic programs — can even support chained programs.
- Contains a special feature which protects your program from being 'broken'.
- Incorporates all the latest techniques in program encryption and protection.
- Each system has been specially prepared and is unique from all other systems — only **you** are able to make working duplicates of your own protected programs.
- Simple and easy to use — entirely menu drive with prompts.
- Will stop virtually all software copiers from duplicating your programs.
- Fast and reliable protection routine does not take away any useable space from your disk — all 664 blocks are available for use.
- Easy to follow step by step instructions are included on the disk.
- A **must** for all programmers who do not want their programs to be in public domain!

Even the "nibblers" can't copy them. Not even *Disk Maker, *Mister Nibbles, *Copy II, *Ultra Byte or *Fast Hackem. The time to protect you disk is only 5 (five) seconds and each Master Lock makes a different protection scheme. Only

*Disk Maker™, Basix
*Mister Nibbles™, Full Circle
*Copy II™, Central Point Software
*Ultra Byte™, Ultra Byte
*Fast Hackem™, Basement Boys Software

$29.95

TOOLBOX 64 AND NEW TOOLBOX 128

Side 1 contains over 100 routines, some of them are for protection, smooth scrolling, modem routines and sound and color. Also a bootmaker, paddle and joystick test, read terminal, and auto dial and auto answer. Documented routines allow you to use them to build your own programs or use alone. This disk has a lot of tricks that are used in commercial software.

Side 2 contains several of the same routines for the 128 system but also a T&S editor for going out to track 66, along with a screen dump for the 80 colum mode and lots, lots more.

Side 1 C-64 **Side 2 128** All for $19.95

64-128 CROSS REFERENCE BOOK

This is the first book available of its kind. Complete cross-references used to covert 64 programs over to the 128 computer. Book is formated on the left side with the location and label name, and then on the right with the equilvent 128 location. The entire range of memory is covered starting at 0-Page going thru BASIC and then thru the Operating System. A must for the serious 128 user.

$12.95

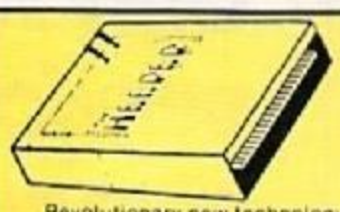
AUTO LOADER

A cartridge that plugs into your expansion port that makes loading and working with the disk drive much **easier.** With AUTO LOAD you will never have to type any of the load commands again. The cartridge will not interfere with **any** of your programs and has three different ways to load them.

1. Automatic mode allows you to set up a special file that has commands in it that you want the system to perform when power is first turned on. (Same as Apple's and IBM autostart files.)
2. If an auto-start file is not found then AUTO LOAD loads the directory and displays it in a menu format. Pressing one letter next to your selection loads and runs the program. Automatically!
3. Holding down different function keys while turning the computer on types in commands like (LOAD"*",8,1), (LOAD"*",8 • RUN), (LOAD"$",8 • LIST).

- Go straight into your application with no hassel.
- Load wedge first, change colors then load application without touching the keyboard!
- **Great** for programmers, can be used to load up several utilities in a row!
- Makes sorting thru and loading several different programs very **quick.** (as with public domain, multi utilities disk etc...)
- **Easy** for kids that cant type yet.
- Comes with built in system reset switch.

ONLY $19.95



NEW FOR C-64 and C-128
THE KEEPER

Revolutionary new technology enables virtual storage of 8192 bytes of high speed RAM. With write protect and in/out switches, the KEEPER adds new dimensions to your computing capability. Designed for the Commodore C-64 and C-128.

- Makes Auto-Start Cartridges of Your Own Programs
- Built-in Software Makes Use EASY
- Copy BASIC or Machine Language Programs
- Instant Program Recall
- May Be Used Over and Over
- Guaranteed for 1 Year

ONLY $39.95

GRAPHIC LABEL MAKER

Give your labels the professional touch. With Hi Rez Graphics make your own design or use one our 60 premade labels with easy to use on screen editor. You can insert up to three lines of text then choose the picture you want to put on the left hand side of the label. Then you can print out as many labels as you want. This has got to be the neatest label program out there and it's only $24.95

*Now works with Print Shop

*Also available — the x-rated Graphic package for the 64 and your print shop. There's 60 Hi Rez pictures

$24.95

1541 M.A.S.H.

Now you can service your own 1541 disk drive using 1541 M A S H. Save big bucks on repair bills. Rate the performance of your drive. Test and adjust RPM's. Test and adjust head alignment. Step by step instructions that anyone can follow. Pays for itself the first time you use it to adjust a misbehaving drive. No knowledge of electronics is necessary. All you needs is a screwdriver and 20 minutes.

NOW ONLY $19.95

128 80-COLUMN ADAPTER

An adapter that plugs into your RGG output that gives you 80-colums of monochrome text in the 128 mode.

$9.95

SWIFTERM AND MODEM
This is the best package anywhere!

SWIFTERM:
is absolutely the easiest terminal program available anywhere

- Works with the 1660, and Westridge Modem
- New printer and midwestern protocal
- Printer dump
- DOS commands access from menu
- Phone book
- Auto dial (with auto redial)
- 29K storage buffer
- Save to disk
- Standard ASCII up/down loading
- 300/1200 Baud

This is an excellent easy to use program for a very reasonable price.

THE MODEM

Auto dial, auto answer, 300 baud modem that is 100% compatible with Commodores 1650 modem, so all our software will run with it.

Swifterm 64 and Modem for $35.95

So why buy just another terminal program when you can get a modem too!?!

SWIFTTERM 128

Same features as above but for 128. Also including a 48K buffer and a programable phone list. Faster speed using the 1571.

$29.95

WANTED: PROGRAM SUBMISSIONS

Megasoft is currently seeking quality program submissions for marketing on a national scale. We pay good royalties and can work several options. If you feel that you have something of interest, call (206) 687-7176 for more information. Unique utilities and hardware devices a plus.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

64 BBS

Full performance board with lots of extra's not found on others. Two different versions to satisfy your needs.

- Backroom password gives you access to 7 read and write rooms with 4 security levels
- Open chalk board, used to post messages by users.
- Secret highest level
- Auto message cycling
- Remote access for sysop
- Printer option
- 300/1200 Baud
- 2 Levels of security for up and down load
- New punter, X modem and midwest supported

$39.95

128 BBS

New for your 128, a complete BBS program with all the functions of the 64 version plus more.

- A complete seperate sub-board
- User activity log
- Faster performance using the 1571
- Supports new punter and X modem protocols.

Both boards are completely menu driven and easy to use. Several options can be set up according to the system operators choice. This is the most comprehensive system avialable anywhere.

$59.95

D-CODER

- Translates any machine language program into easy-to-ready English descriptions with complete explanations of each command.
- Makes complete notations of all important memory locations accessed by the program (SID, VIC, MOS, KERNAL, etc.)
- Gives you three ways of accessing programs:
  1. **Will read and list programs from DISK**
  2. **Will read and list programs from MEMORY**
  3. **Direct user input (from magazines, etc.)**
- Can be used to locate and examine any machine language program's protection routines!
- Can be used to easily break apart machine language programs for study and examination!
- Printer option for complete hard copy listings!

$19.95

You no longer need to be an EGGHEAD to read Machine Language.

N-CODER

THE PERFECT COMPANION PROGRAM TO D-CODER!

Allows you to easily make changes in machine language programs . . . right on the disk!

- Rewrite ability allows code to be altered and then rewritten directly to the disk!
- Features sector-by-sector scrolling assembly language display of machine language programs!
- Notation of ASCII text equivalents for easy spotting of embedded text strings!
- Handy reference display of all assembly language commands and their ML numerical equivalents!
- Byte splitter for easy splitting of decimal addresses into low byte-high byte format!

$19.95

GRAPHICS AND GAME DISK

A stimulating x-rated adventure game, complete with graphics representations. This is not your typical adventure game. FEATURES ANIMATED X-RATED CARTOONS

*Joystick required

$24.95

WAR GAMES AUTODIALER

1. **Auto Dial** will automatically dial a set of numbers you choose.
2. **Review Numbers** will review numbers that were answered by a computer.
3. **Save Numbers** will save numbers where a computer answered.
4. **Hardcopy of Numbers** will print out list of numbers where a computer answered.
5. **LOAD Numbers** will load in numbers to continue where it left off.
6. **Continue** will pick up dialing where it was interrupted.

$29.95

Top Secret Stuff I and Top Secret Stuff II

Programed by Jim Drew

Are both collections of 20 programs per diskette (that works out to about $1.00 per program!) that help you explore and enhance your Commodore 64 and/or 128 and 1541 disk drive. Now you can unlock many secrets formerly known only to top machine language programmers by using these sophisticated "tools." If you have ever been curious about the inner workings of your computer system, now is your chance to dig in and find answers with the help of these programs. These collections of programs have gotten rave reviews from actual users, and we are sure that you, too, will be pleased.

The programs include on each diskette are listed below

TOP SECRET STUFF I

The Dock (view/repair disk contents)
Sync Checker (diskette)
Imbedded Track Number Creator
Disk Manipulation System
3 Minute Copy (backup program)
Diskette Matcher (compare sectors)
Unscratch A File (recover file)
View BAM (block allocation map)
1541 Read/Write Test
½ Track Reader
Header Reader (display disk header)
Sync Maker
Device Number Change (disk drive)
Electronic Arts Backup
Drive Mon (disk drive m/l monitor)
Diskette File Log (start-end address)
Write-Protect Sensor Test
Repair A Track (recover data)
Fast Format (10 seconds)
½ Track Formatter

$19.95

TOP SECRET STUFF II

RAM Test (test Computer RAM)
Copy $A000-$FFFF (under ROMS)
Display G.C.R. (All sector data)
Un-Write Protect (diskette)
Unnew Program
Wedge - $8000
Smooth Scroll (messages up screen)
Koala Dump (koala pad screen dump)
Disk Manipulation System
Disk Eraser (20 second clean wipe)
Split Screen (TWO screen colors)
Disk Protection System (stops copies)
Write Protect (diskette)
Boot Maker (autoboot BASIC programs)
Wedge - $C000
Diskmatcher II (high speed version)
No Drive Rattle (on reading errors)
3 Times Disk Drive Head Speed
Monitor Test (check video monitor)

$19.95

SOFTWARE PROTECTION HANDBOOK

4th Edition!

SOFTWARE PROTECTION HANDBOOK
Fourth Edition! Now Available!

If you're **tired** of being harassed by **protected software** and too many **copy** programs, then this is the book for you! This 250 page manual covers the gamut from legalities to protection methods to step-by-step back up procedures. Now you can learn both how to **protect and unprotect** software! The techniques covered include copying cartridges to tape or disk, tape protection, and disk protection. Disk protection covers error numbers 20, 21, 22, 23, 27 and 19 **plus** single track formatting, header modification, header swapping, half track reading and writing reading and modified bit densities, formatting illegal track/sectors, sync writing and **more!** Forth addition contains the most unusual and innovative protection analysis tool for the Commodore yet! - **not for Beginners** - This system expands your 1541 drive giving capability otherwise only possible for **professional** disk duplication equipment, now you can create or analyze exotic forms of disk protection. **'D.O.S. Kings' Take Note!** - Entire tracks of data can be read and written without regard to 'standard' sync and format. You are no longer limited to sector by sector searches. Whole track readouts reveal hidden data even when all or most of the sectors have been erased. Uncovers and writes data under errors, pulse coaded sync or data, hidden data and access codes, multiple track densities and more! This manual covers the complete implementation of the track trap system including necessary software and hardware documentation.

C-64 Book Only ..... **$19.95** US

Book & Disk of all Programs ..... **$29.95** US

This manual does not condone piracy

THE XXXXXXXXXX

X-RATED GRAPHICS LIBRARY

Your Print Shop May Never Be The Same!

X-Rated Graphics guaranteed to spice up your special letterheads, greeting cards, signs and banners! Everything from mild to Look Out Nelly! 60 Erotic additions to heat up your print shop graphics library, plus 5 ribald Screen Magic additions!

$24.95

Print Shop is a trademark of Broderbund.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders. Canada orders must be in U.S. Dollars. VISA — MASTER CARD — C.O.D.

Programs for C-64

$3.00 S & H on all orders

Software Submissions Invited

VISA

MasterCard

MegaSoft Limited

P.O. Box 1080, Battle Ground, Washington 98604

Phone 800-541-1541 • 24 hour BBS order line • 206-687-5205

Tech. Line & Foreign & In Washington state orders - 206-687-7176

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Fast-Food Chef

If you've ever considered a career in the fast-food business, this program is great preparation.

By GEORGE DECKER

Take two parts Basic, add in seven spicy machine language subroutines, throw in a tasty systems interrupt, mix with a dash of high-resolution and multicolor graphics, make into beefy patties and add your toppings and buns. You can prepare these culinary delights with a C-64 and devour them vicariously to your heart's content.

How to Play

Burgers is a game that will drive you a little crazy. In these days of mass production, fixing a burger shouldn't be at all difficult. Push a computer key and on squirts the catsup. Push another key and you've got the mustard. Still another finishes the burger by putting the top bun in place. Sound easy? Well, what if the keys you needed to push kept changing? And suppose the burgers kept coming faster and faster? You might get a little frazzled.

Burgers begins with the bottom bun moving down the screen. It will pause (the duration depends on the skill level you select) beside the catsup, mustard and top bun holder. Next to each item will be a letter that changes as the bottom bun moves. When the bun pauses, the letters will stop, and you must type in the three letters selected.

You must build each burger in a specific order: catsup first, mustard second and top bun last. If you miss putting on the catsup, then you can't add the mustard and top bun. To add the bun, you must top the burger with both catsup and mustard.

At the bottom of the screen is a red bar showing what fixings you must add to the burger. Under this is your score. Every unfinished burger causes the red bar to go down, and if this bar runs out, the game is over.

You receive 100 points for every finished burger. For every 1000 points you earn, the fixings bar will rise. High score is displayed at the top of the screen.

There are three skill levels: easy, normal and hard. Each level determines the length of the bun's pause. As you play, regardless of which level you select, the pauses will get shorter and shorter. R

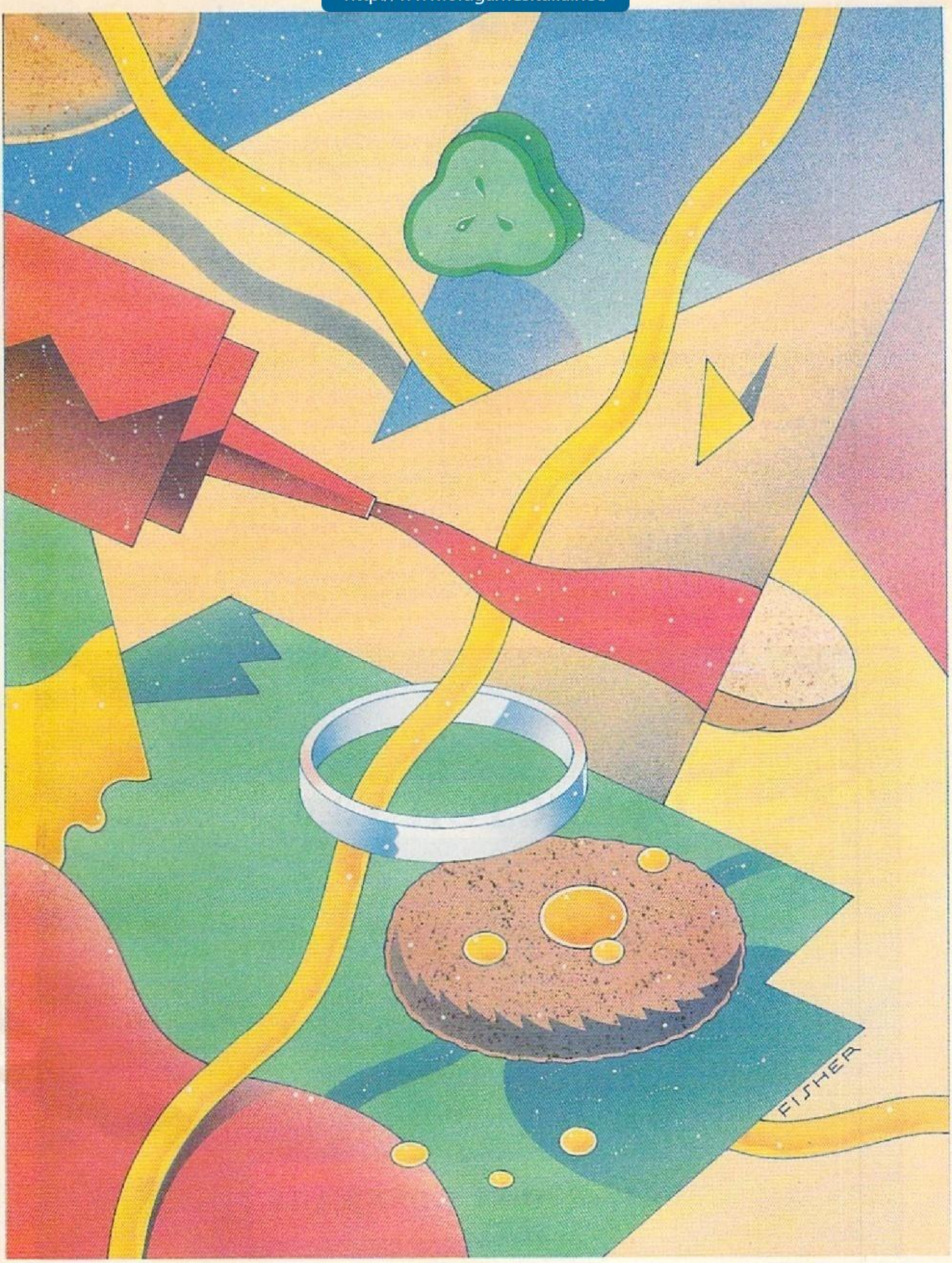
Address all author correspondence to George Decker, 251 N. Luzerne Ave., Baltimore, MD 21224.

RUN It Right

C-64; C-128 (in C-64 mode)

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Mark Fisher

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1. *Burgers program for the C-64.*

```
1 REM BURGERS                                    :REM*93
2 REM 10/18/84                                   :REM*140
3 REM GEORGE DECKER                              :REM*223
4 REM 251 N. LUZERNE AVE.                        :REM*254
5 REM BALTO., MD. 21224                          :REM*183
6 REM**********************                      :REM*30
10 POKE52,48:POKE56,48:CLR                       :REM*230
15 DIMZ$(26):B=65:FORA=1TO26:Z$(A)=CHR$(B):
   B=B+1:NEXT                                    :REM*113
20 POKE53281,1:PRINT"{SHFT CLR}{CTRL 7}{15
   CRSR RTs}{CRSR DN}BURGERS                     :REM*202
22 PRINT"{17 CRSR RTs}BY":PRINT"{11 CRSR RT
   s}GEORGE R. DECKER"                           :REM*88
25 PRINT"{5 CRSR DNs}{CTRL 3}{10 CRSR RTs}S
   ELECT SKILL LEVEL":PRINT:PRINT                :REM*97
30 PRINT"{CTRL 1}F1 - EASY":PRINT"F3 - NORM
   AL":PRINT"F5 - HARD":PRINT"F7 - CHILDREN
   "                                             :REM*198
35 GETA$:IFA$="{FUNCT 1}"THENK=150:GOTO70
                                                 :REM*247
40 IFA$="{FUNCT 3}"THENK=100:GOTO70:REM*246
45 IFA$="{FUNCT 5}"THENK=50:GOTO70 :REM*195
50 IFA$="{FUNCT 7}"THENK=200:GOTO70 :REM*16
60 GOTO35                                        :REM*80
63 REM GET SKILL LEVEL                           :REM*27
70 PRINT"{CRSR DN}{11 CRSR RTs}{CTRL 3}WAIT
    ONE MOMENT"                                  :REM*60
73 FORA=54272TO55295:POKEA,0:NEXT:REM CLEAR
    OUT SID                                      :REM*25
75 POKE54273,48:POKE54272,127:POKE54277,0:P
   OKE54278,128:POKE54296,15                     :REM*25
76 REM SET MUSIC                                 :REM*244
80 POKE53265,PEEK(53265)AND239:REM BLANK SC
   REEN                                          :REM*126
100 POKE56334,PEEK(56334)AND254:POKE1,PEEK(
    1)AND251                                     :REM*138
110 FORA=0TO463:POKE14336+A,PEEK(53248+A):N
    EXT                                          :REM*28
120 POKE1,PEEK(1)OR4:POKE56334,PEEK(56334)O
    R1                                           :REM*30
130 POKE53272,(PEEK(53272)AND240)OR14
                                                 :REM*242
140 REM****MOVE CHARACTER ROM****                :REM*116
150 FORA=14800TO14831:READB:POKEA,B:NEXT
                                                 :REM*180
160 DATA3,3,15,15,63,63,255,255:REM 58
                                                 :REM*216
170 DATA255,255,255,255,255,255,255,255:REM
    59                                           :REM*240
180 DATA192,192,240,240,252,252,255,255:REM
    60                                           :REM*26
190 DATA192,240,252,255,255,252,240,192:REM
    61                                           :REM*68
200 REM***CUSTOM CHARACTERS                      :REM*234
201 DATA0,0,0,0,0,0,0,0                          :REM*123
202 DATA0,0,0,0,0,0,0,0                          :REM*124
203 DATA0,0,0,0,0,0,0,0                          :REM*125
204 DATA0,0,0,0,0,0,0,0                          :REM*126
205 DATA0,0,0,0,0,0,0,85                         :REM*99
206 DATA85,85,85,85,85,21,85,84                  :REM*242
207 DATA21,85,84,5,85,80,5,85                    :REM*65
208 DATA80,1,85,64,1,85,64,0                     :REM*150
209 DATA0,0,0,0,0,0,0,0                          :REM*131
210 DATA0,0,0,0,0,0,0,0                          :REM*132
211 DATA0,0,0,0,0,0,0,0                          :REM*133
212 DATA0,0,0,0,0,0,0,0                          :REM*134
213 DATA0,255,255,255,255,255,255,85
                                                 :REM*119
214 DATA85,85,85,85,85,21,85,84                  :REM*250
215 DATA21,85,84,5,85,80,5,85                    :REM*73
```

→

Circle 22 on Reader Service card.

For the last two years, many software vendors have tried to make a disk utility more revolutionary than DI-SECTOR V2.0.

Now someone finally has!

DI-SECTOR V3.0

★ Unprotected disk copier archives disks in 48 seconds with verify!
★ Protected disk backup archives the latest disks in only 1 minute!
★ All copiers work with one or two 1541 disk drives.
★ Ultra fast file copier will copy between 1541, MSD, SFD 1001, hard disk drives, etc.
★ Full featured sector editor allows modification of sectors in ASCII, HEX & Assembler.
★ Powerful machine language monitor allows debugging of drive & computer code!
★ Block identifier utility allows the viewing of half-tracking, density switching, etc.
★ DI-SECTOR diskette NOT PROTECTED for unlimited archival backups!!
★ All these features, and more for only $39.95!

When updating by mail:
(UPDATES NOT ACCEPTED WITHOUT THE RETURN OF MASTER DISK)
★ $5.00 + 4.00 s/h
★ $5.00 + 5.00 COD orders
★ Shipping costs outside USA $6.00
★ Calif. residents add 6½ sales tax
★ VISA or Mastercard accepted

. . . WRITE OR PHONE . . .
STARPOINT SOFTWARE
122 S. Broadway Yreka, CA 96097 (916) 842-6183

When ordering by mail:
★ $39.95 + 4.00 s/h
★ $39.95 + 5.00 COD Orders
★ Shipping costs outside USA $6.00
★ Calif. residents add 6½ sales tax
★ VISA or Mastercard accepted

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
216 DATA8Ø,1,85,64,1,85,64,Ø          :REM*158
217 DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*139
218 DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*14Ø
219 DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*141
22Ø DATAØ,Ø,Ø,17Ø,17Ø,17Ø,17Ø,17Ø     :REM*184
221 DATA17Ø,255,255,255,255,255,255,85
                                       :REM*83
222 DATA85,85,85,85,85,21,85,84        :REM*2
223 DATA21,85,84,5,85,8Ø,5,85          :REM*81
224 DATA8Ø,1,85,64,1,85,64,Ø           :REM*166
225 DATAØ,Ø,Ø,1,85,64,1,85             :REM*51
226 DATA64,5,85,8Ø,5,85,8Ø,21          :REM*148
227 DATA85,84,21,85,84,85,85,85        :REM*163
228 DATA85,85,85,17Ø,17Ø,17Ø,17Ø,17Ø
                                       :REM*2Ø2
229 DATA17Ø,255,255,255,255,255,255,85
                                       :REM*91
23Ø DATA85,85,85,85,85,21,85,84        :REM*1Ø
231 DATA21,85,84,5,85,8Ø,5,85          :REM*89
232 DATA8Ø,1,85,64,1,85,64,Ø           :REM*174
235 FORA=12288TO12543:READB:POKEA,B:NEXT
                                       :REM*95
24Ø FORA=12544TO126Ø6:POKEA,Ø:NEXT     :REM*Ø
25Ø REM***SPRITE CHARACTERS***         :REM*36
31Ø POKE5328Ø,14:POKE53281,1           :REM*233
32Ø PRINT"{SHFT CLR}{2 SPACEs}{CTRL 1}SCORE
    {8 SPACEs}{CTRL 6};;;;;;;;;{5 SPACEs}{C
    TRL 1}HIGH SCORE{6 CRSR LFs}{CRSR DN}"H
    S"{CRSR UP}"                       :REM*245
33Ø PRINTTAB(15)"{CTRL 6};{CTRL 5}BURGERS{C
    TRL 6};"                           :REM*125
34Ø PRINTTAB(15)"{CTRL 6};;;;;;;;;"    :REM*11
35Ø FORA=1184TO1223:POKEA,59:POKEA+76Ø,59:P
    OKEA+8ØØ,59                        :REM*95
36Ø POKEA+54272,14:POKEA+55Ø32,14:POKEA+55Ø
    72,2:NEXT                          :REM*81
37Ø FORA=1224TO19Ø4STEP4Ø:POKEA,59:POKEA+39
    ,59                                :REM*215
38Ø POKEA+54272,14:POKEA+54311,14:NEXT:Z=2
                                       :REM*173
39Ø FORA=1356TO1916STEP4Ø:FORB=ØTO3:POKEA+B
    ,59:POKEA+B+54272,Z                :REM*223
4ØØ IFZ=2THENZ=7:GOTO43Ø               :REM*37
41Ø IFZ=7THENZ=12:GOTO43Ø              :REM*117
42Ø Z=2                                :REM*2Ø1
43Ø NEXTB:NEXTA                        :REM*15
44Ø FORA=136ØTO1372:POKEA,59:POKEA+2ØØ,59:P
    OKEA+4ØØ,59                        :REM*75
45Ø POKEA+54272,2:POKEA+54472,7:POKEA+54672
    ,12:NEXT                           :REM*43
46Ø POKE1372,61:POKE1572,61            :REM*171
47Ø PRINT"{HOME}{17 CRSR DNs}"TAB(16)"{COMD
     2};;<:;<:;<:;<"                   :REM*57
48Ø FORA=1133TO1135:POKEA+54272,1:POKEA,59
                                       :REM*167
485 POKE1893,59:POKE1894,59:POKE1933,59:POK
    E1934,59:POKE1935,59               :REM*74
487 POKE56165,13:POKE56166,13:POKE562Ø5,13:
    POKE562Ø6,13                       :REM*2Ø8
488 POKE1895,59:POKE56167,13:POKE562Ø7,13
                                       :REM*231
49Ø POKEA+54312,1:POKEA+4Ø,59:NEXT     :REM*193
5ØØ REM***SCREEN SET UP***             :REM*131
5Ø5 POKE53275,15:REM SPRITE BEHIND BACKGROU
    ND                                 :REM*11Ø
51Ø V=53248:POKEV+21,15:REM TURN ON FIRST 4
     SPRITES                           :REM*99
52Ø POKE2Ø4Ø,196:POKE2Ø41,196:POKE2Ø42,196:
    POKE2Ø43,196:REM SPRITES BLANK     :REM*158
53Ø POKEV+39,7:POKEV+4Ø,7:POKEV+41,7:POKEV+
    42,7:REM SET SPRITE COLOR          :REM*1Ø8
54Ø POKEV+28,15:POKEV+37,9:POKEV+38,1Ø:REM
    SET MULTI COLOR SPRITES            :REM*1Ø8
56Ø POKE2Ø4Ø,192:POKEV+Ø,Ø:POKEV+2,Ø:POKEV+
    4,Ø:POKEV+6,Ø                      :REM*184
57Ø POKEV+1,68:POKEV+3,1Ø7:POKEV+5,146:POKE
    V+7,185:POKEV+16,15                :REM*17Ø
575 REM*** SET SPRITE POSITIONS***     :REM*53
576 REM***START OF GAME FOLLOWS***     :REM*114
577 POKE53265,PEEK(53265)OR16:FORA=1TO6ØØ:N
    EXT                                :REM*2Ø5
578 SC=Ø:FB=39:UB=Ø                    :REM*54
58Ø FORA=1TO39:POKE54276,33            :REM*244
59Ø S=INT(RND(1)*26)+1                 :REM*44
6ØØ T=INT(RND(1)*26)+1:IFT=STHEN6ØØ:REM*116
61Ø U=INT(RND(1)*26)+1:IFU=TTHEN61Ø    :REM*22
62Ø PRINT"{HOME}{8 CRSR DNs}{1Ø CRSR RTs}{C
    TRL 3}"Z$(S)                       :REM*22
63Ø PRINT"{4 CRSR DNs}{1Ø CRSR RTs}{CTRL 8}
    "Z$(T)                             :REM*92
64Ø PRINT"{4 CRSR DNs}{1Ø CRSR RTs}{COMD 2}
    "Z$(U)                             :REM*194
65Ø POKEV+1,A+68:POKEV+3,A+1Ø7:POKEV+5,A+14
    6:POKEV+7,A+185:POKE54276,32:NEXT
                                       :REM*238
655 POKE2Ø44,PEEK(2Ø43)                :REM*127
66Ø POKE2Ø43,PEEK(2Ø42):POKEV+7,185:REM*12Ø
67Ø POKE2Ø42,PEEK(2Ø41):POKEV+5,146:REM*148
68Ø POKE2Ø41,PEEK(2Ø4Ø):POKEV+3,1Ø7:REM*172
69Ø POKE2Ø4Ø,192:POKEV+1,68            :REM*14Ø
7ØØ FORB=1TOK                          :REM*248
71Ø GETA$                              :REM*154
72Ø IFA$=Z$(S)THENPOKE2Ø41,193         :REM*44
73Ø IFA$=Z$(T)ANDPEEK(2Ø42)=193THENPOKE2Ø42
    ,194                               :REM*238
74Ø IFA$=Z$(U)ANDPEEK(2Ø43)=194THENPOKE2Ø43
    ,195                               :REM*8Ø
75Ø NEXTB                              :REM*12
76Ø IFPEEK(2Ø44)=196THEN58Ø            :REM*124
77Ø IFPEEK(2Ø44)<>195THEN8ØØ           :REM*2Ø7
78Ø SC=SC+1ØØ:PRINT"{HOME}{CTRL 1}{7 CRSR R
    Ts}"SC                             :REM*159
79Ø UB=UB+1ØØ:IFUB=1ØØØTHEN82Ø         :REM*167
795 GOTO58Ø                            :REM*12Ø
796 REM UPDATE SCORE                   :REM*81
8ØØ POKE56256+FB,1:FB=FB-1:IFFB=ØTHEN86Ø
                                       :REM*245
81Ø GOTO58Ø                            :REM*135
815 REM DECREASE FIXINGS-SEE IF GAME IS OVE
    R                                  :REM*142
82Ø FB=FB+1:IFFB>39THENFB=39           :REM*53
83Ø POKE56256+FB,2:UB=Ø                :REM*245
84Ø K=K-5:IFK<25THENK=25               :REM*55
85Ø GOTO58Ø                            :REM*175
855 REM INCREASE FIXINGS-SPEED UP GAME
                                       :REM*166
86Ø POKEV+21,Ø                         :REM*241
863 IFSC=>HSTHENHS=SC                  :REM*1Ø
865 PRINT"{SHFT CLR}{CRSR DN}{13 CRSR RTs}{
    CTRL 1}GAME OVER!"                 :REM*4
87Ø PRINT"{5 CRSR DNs}{8 CRSR RTs}FINAL SCO
    RE "SC                             :REM*121
88Ø PRINT"{3 CRSR DNs}{8 CRSR RTs}HIGH SCOR
    E "HS                              :REM*165
89Ø PRINT"{CTRL 7}{6 CRSR RTs}{4 CRSR DNs}T
    O PLAY AGAIN PUSH ANY KEY.":POKE198,Ø
                                       :REM*149
9ØØ WAIT198,1:RESTORE:GOTO2Ø           :REM*77
91Ø REM END GAME-SEE IF ANYONE WANTS TO PLA
    Y AGAIN                            :REM*41
```


http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 15 on Reader Service card.

13" Zenith Complete Color Monitor Sale

• Composite • RGB • Sound

Home Computers VCRs Modular TV Tuners Video Games

Excellent Color Reproduction & Special "Green Screen Only" Option

True color reproduction is achieved by a Zenith designed state-of-the-art integrated circuit chip that processes the composite video signal. A custom Zenith analog RGB direct drive gain control integrated circuit allows user-preference for the adjustment of picture drive and black level. Zenith's unique "Green Screen Only" feature eliminates all other colors so that monochromatic text material may be easily displayed in green on the black face screen.

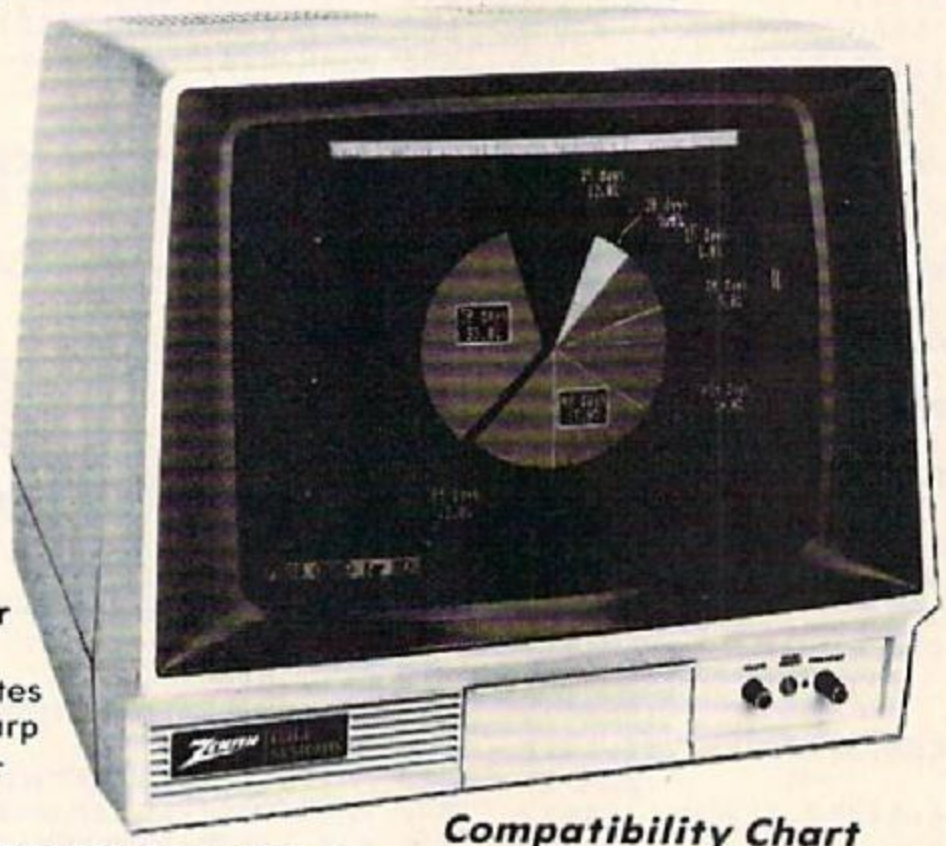
Constant Intensity Character Definition Quality

Quality circuitry design generates crisp lines, pure colors, and sharp character definition for easy-to-read displays. DC-coupling permits the video display to retain its color balance from a single dot to a full screen of data.

List $499.00

Sale $139.95

Sale $139.95 *LIMITED QUANTITIES*



ZVM 131-Accessible by Many Popular Systems

The ZVM 131 is designed to interface with most personal computers, VCRs, video discs, video games and modular TV tuners that have either composite video or RGB direct drive outputs.

Compatibility Chart

Computer	Interfaces Via
Apple II	Composite
Aplus 3000	RGB
Apple III	RGB
IBM PC	RGB
Commodore 128	RGB/Composite
Commodore 64	Composite
Commodore Vic-20	Composite
TI 99/4	Composite
Atari 800	Composite
Atari 1200	Composite
Atari 1400	Composite

The ZVM 131 Sound Of Quality

The output sound level is externally regulated by a user-adjustment volume control. Use the Zenith quality sound system to monitor the modern audio capabilities of the computer generation.

Easy-To-Reach Front Access Controls

ZVM 131's 13" diagonal display screen can exhibit impressive graphics and intensely clear copy. Easy-to-reach front access user controls (picture, black level, color level, tint, sharpness, audio volume, background noise control) make display adjustment simple and fast. An LED power on indicator notifies the user when the monitor is operable.

Multiple Monitors On A Single Computer

The composite video "loop-thru" feature permits a single composite video source to drive several monitors at the same time. This allows easy display possibilities for multiple viewers in business and educational applications. No more crowding around a single terminal. Everyone enjoys a clear, unobstructed view of important data.

Connection Cables

RGB Cable — $19.95
C128, Aplus 3000 (Specify)

Composite — $9.95
Commodore, Aplus 3000, Atari (Specify)

This Is The Best Value Of The Century

Add $17.50 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $35.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES EXCEPT CANADA.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders. 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

PROTECTO

We Love Our Customers

22292 N. Pepper Rd., Barrington, Illinois 60010

312/382-5244 to order

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 15 on Reader Service card.

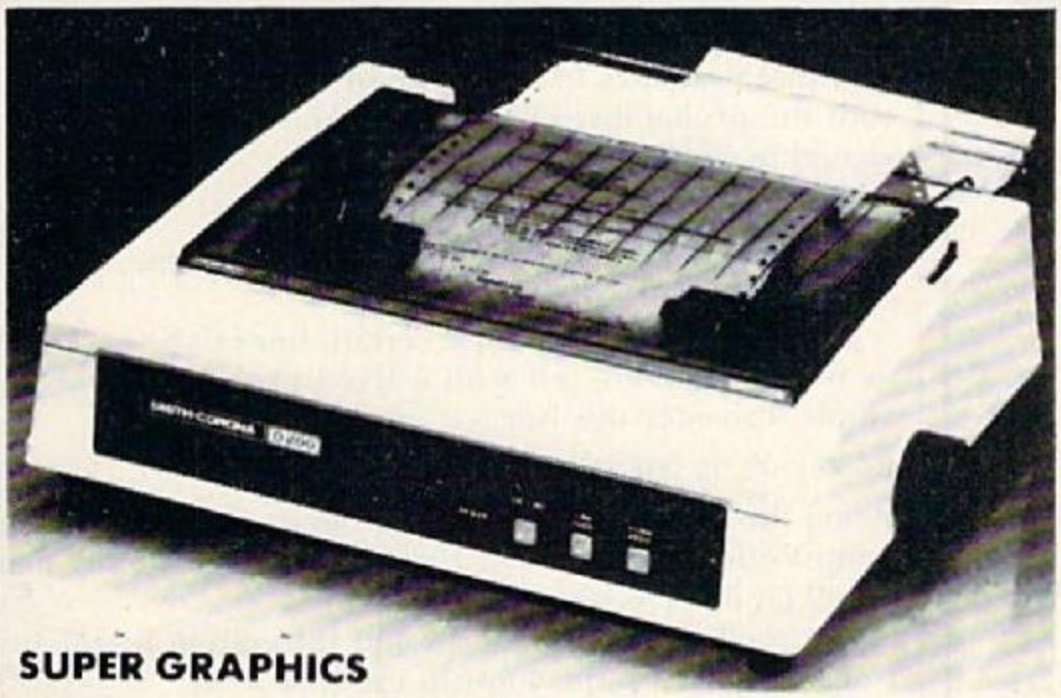
Famous Smith Corona National Brand

10" PRINTER SALE

Below Wholesale Cost Prices!!!

• ONE YEAR IMMEDIATE REPLACEMENT WARRANTY

- Speed: 120 or 160 characters per second
- Friction Feed/Tractor Feed — Standard
- 80 character print line at 10 CPI
- 1 Line Buffer, 2K Buffer on 120/160 CPS Plus LQM
- Six pitches
- Graphics capability
- Centronics compatible parallel interface
- Features Bidirectional Print, Shortline Seek, Vertical And Horizontal Tabs



SUPER GRAPHICS

This is a sample of our emphasized near-letter-quality print.

italic print. There is standard data processing quality print

Check these features & prices

120 CPS 10" Printer

List $429.00 **SALE $159**

120 CPS + Letter Quality Mode 10" Printer

List $449.00 **SALE $179**

160 CPS + Letter Quality Mode 10" Printer

List $499.00 **SALE $199**

SPECIFICATIONS

(IBM — Commodore)

Size/Weight
Height 5.04" Width 16.7"
Depth 13.4" Weight 18.7 lbs.
Internal Char. Coding
ASCII Plus ISO
Print Buffer Size
120 CPS: 132 Bytes (1 line)
120/160 CPS Plus LQM: 2K
No. of Char. In Char. Set
96 ASCII Plus International
Graphics Capability
Standard 60, 72, 120 DPI
Horizontal 72 DPI Vertical
Pitch
10, 12, 16.7, 5, 6, 8.3, Proportional Spacing
Printing Method
Impact Dot Matrix

Char. Matrix Size
9H x 9V (Standard) to 10H x 9V
(Emphasized & Elongate)
Printing Features
Bi-directional, Short line seeking, Vertical Tabs, Horizontal Tabs
Forms Type
Fanfold, Cut Sheet, Roll (optional)
Max Paper Width
11"
Feeding Method
Friction Feed Std.; Tractor Feed Std.
Ribbon
Cassette — Fabric inked ribbon
Ribbon Life
4 million characters

(Apple — Atari — Etc.)

Interfaces
Parallel 8 bit Centronics compatible
120/160 CPS Plus NLQ: RS232 Serial inc.
Character Mode
10 x 8 Emphasized; 9 x 8 Standard; 10 x 8 Elongated; 9 x 8 Super/Sub Script (1 pass)
Character Set
96 ASCII
11 x 7 International Char.
Line Spacing
6/8/12/72/144 LPI
Character Spacing
10 cpi normal; 5 cpi elongated normal; 12 cpi compressed; 6 cpi elongated compressed; 16.7 cpi condensed; 8.3 cpi elongated condensed; 5.12.5 cpi elongated proportional

Cartridge Ribbon — List $19.95. **Sale $12.95.**

Interfaces

IBM $89.00 **Apple $59.00** **Atari $59.00** **Commodore $39.00**

Add $14.50 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $29.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars.

WE DO NOT EXPORT TO OTHER COUNTRIES, EXCEPT CANADA.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days delivery. 2 to 7 days for phone orders. 1 day express mail!

VISA — MASTERCARD — C.O.D. No C.O.D. to Canada or APO-FPO

PROTECTO

We Love Our Customers

22292 N. Pepper Rd., Barrington, Illinois 60010

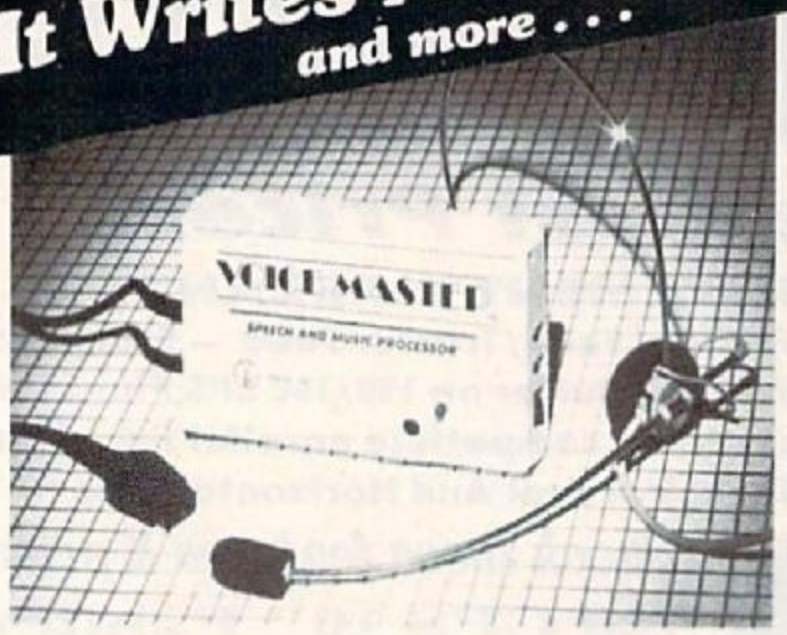
312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

It Talks!
It Recognizes!
It Writes Music!
and more . . .



THE AMAZING VOICE MASTER®
Speech and Music Processor

Your computer can talk in your own voice. Not a synthesizer but a true digitizer that **records** your natural voice quality—and in any language or accent. Words and phrases can be expanded without limit from disk.

And it will understand what you say. A real word recognizer for groups of 32 words or phrases with unlimited expansion from disk memory. **Now you can have a two way conversation with your computer!**

Easy for the beginning programmer with new BASIC commands. Machine language programs and memory locations for the more experienced software author.

Exciting Music Bonus lets you hum or whistle to write and perform. Notes literally scroll by **as you hum!** Your composition can be edited, saved, and printed out. You don't have to know one note from another in order to write and compose!

Based upon new technologies invented by **COVOX**. One low price buys you the **complete system**—even a voice controlled black-jack game! In addition, you will receive a subscription to COVOX NEWS, a periodic newsletter about speech technology, applications, new products, up-dates, and user contributions. **You will never find a better value for your computer.**

ONLY $89.95 includes all hardware and software.

For telephone demonstration or additional information, call **(503) 342-1271.** FREE audio demo tape and brochure available.

Available from your dealer or by mail. When ordering by mail add $4.00 shipping and handling ($10.00 for foreign, $6.00 Canada).

The Voice Master is available for the C64, C128, all Apple II's, and Atari 800, 800XL and 130XE. Specify model when ordering.

VISA MasterCard *For Faster Service on Credit Card Orders only:*

ORDER TOLL FREE 1-800-523-9230

COVOX INC. (503) 342-1271
675-D Conger Street, Eugene, OR 97402
Telex 706017 (AV ALARM UD)

$2B5 Fast Load and drive 9—There's an easy way to make the popular Epyx Fast Load cartridge work with drive 9 (or any other drive) rather than the default drive 8. Just open a command channel to the drive in question, and Fast Load will adopt it as its default drive. Here's an example for drive 9:

```
OPEN 15,9,15
```

To return to drive 8, just do this:

```
CLOSE 15 : OPEN 15,8,15 : CLOSE 15
```

Donald E. Griffey
Hopkinsville, KY

$2B6 Probability function—Here's a neat little function that evaluates to logic true or logic false (−1 or 0), with the probability of "true" depending on a value assigned by you:

```
10 DEF FNP(X)=RND(1)<X
```

In this case, FNP(.2) will be true 20% of the time, FNP(.5) 50% of the time, and so forth.

One use of this is to cause certain lines to be executed or not, at random, but with a fixed probability. For example, consider this line:

```
100 IF FNP(.25) THEN GOSUB 1000
```

When the line is executed, the program may or may not jump to the subroutine at 1000, but the probability that it will go there is one in four (.25).

I've used this technique to add interesting highlights to games, and I hope you can use it as well.

Davie Cooley
Dothan, AL

$2B7 Input with variable default—Sometimes you may like to build a variable default value into an Input statement. That is, you want the default value to be based on conditions that vary from time to time when you're running the program. The way to do it is to print the prompting message and the variable, then use a Poke to place your cursor on the last character of your prompt. Here's an example:

```
PRINT "PROMPT";N; : POKE X,6 : INPUT N
```

The value of X is 211 for the C-64 and VIC; 202 for the Plus/4 and C-16; and 236 for the C-128.

The Input statement's question mark will appear directly after the prompt, followed by a space and the cursor flashing on the first digit of the number N. Just press the return key to make this your entry, or type another number to change it. The trick can also be used when the default is a string variable, but you must insert an extra space at the end of the prompt.

Joseph R. Charnetski
Dallas, PA

$2B8 Unprotector—Have you been frustrated by C-64 programs that use REM [SHIFT L] to protect them from being listed? Have you laboriously gone through those

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 15 on Reader Service card.

COMMODORE 64 COMPUTER $139.95

COMMODORE 128 COMPUTER $289.00

PLUS FREE $69.95 Word Processor

COMMODORE 64 SYSTEM SALE

SAVE

LIMITED QUANTITIES

Deal 1
Commodore 64
Com. 1541 Disk Drive
Com. 803 Printer
$407
PLUS FREE $49.95 Oil Barrons Adventure

Deal 2
Commodore 64
1541 Disk Drive
13" Zenith Color Monitor
$457
PLUS FREE $49.95 Oil Barrons Adventure

Commodore C128 Computer $289.00 *

C128 1571 Disk Drive $259.00 *

SUPER OFFER **C128 COMPUTER** ***SUPER OFFER***

FREE WORD PROCESSOR COUPON

(Expires 4-1-86) CM46

To Introduce you to the C128 computer we are offering you the finest word processor made, Word Writer II with Spell Checker by Timeworks. When you apply the $69.95 value word processor to your purchase price of the C128 at $289.00 **your net cost is only $219.05.** (1 Coupon per family)

C128 Word Writer with 85,000 word Spell Checker — An 80 column professional word processing system that includes a spelling checker and a built in calculator. Easy to use because of the full screen format, you can view the document on your screen as it will appear when printed. Pull-down menus mean that the user doesn't have to memorize commands. You press a key to activate a Word Writer feature and the program guides you through its proper use with logical and easy-to-follow prompts. The program has been designed to interface with Timework's Data Manager 2, a database program and Swiftcalc, a spreadsheet. Contains all the features you'll need for everyday word processing, plus more sophisticated features such as document chaining, form letter printout, page separations, horizontal and vertical scrolling and much more. (Disk) List $69.95.

* **Commodore C128 Computer $289.00.** This all-new revolutionary 128K computer uses Commodore 64 computer software, CPM Software, plus new advanced C-128 software. You pay only $289 for the C128 computer! **Less** the value of the **Special Software Discount Coupon** (see page 14 of our 64 page catalog) we pack with your computer that allows you to **Save Over $250** off software sale prices!! With only $100 of savings applied your net computer cost is $189.00. ***PLUS FREE $69.95 Word Processor.*** **

* **340K 1571 Commodore Disk Drive $259.00**. Double Sided, Single Disk Drive for C-128 allows you to use C-128 mode plus CPM mode. 17 times faster than the 1541, plus runs Commodore 64 software. You pay only $259.00 for the 340K 1571 Commodore Disk Drive. **Less** the value of the **Special Software Discount Coupon** (see page 14 of our 64 page catalog) we pack with your Disk Drive that allows you to **Save Over $250** off software sale prices! With only $100 of savings applied your net Disk Drive cost is only $159.00.

Add $10.00 for shipping, handling and insurance. Illinois residents please add 6% tax. Add $20.00 for CANADA, PUERTO RICO, HAWAII, ALASKA, APO-FPO orders. Canadian orders must be in U.S. dollars. WE DO NOT EXPORT TO OTHER COUNTRIES, EXCEPT CANADA.

Enclose Cashiers Check, Money Order or Personal Check. Allow 14 days for delivery. 2 to 7 days for phone orders. 1 day express mail!

VISA — MASTER CARD — C.O.D.

No C.O.D. to Canada, APO-FPO.

PROTECTO

We Love Our Customers

22292 N. Pepper Rd., Barrington, Illinois 60010

312/382-5244 to order

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

programs, deleting the offending lines by hand? Well, if you have, that drudgery is behind you. Type in the accompanying program, run it, then load a program containing some of those disturbing REMs. Enter SYS 49152, and, in a few seconds, all the shifted Ls will be removed. You can then list your program without encountering syntax errors.

```
10 PRINT"{SHFT CLR}UNPROTECTOR - RALPH NEAL
   "
20 FORJ=49152TO492ØØ:READK:POKEJ,K:CS=CS+K:
   NEXT:PRINT
30 IFCS<>822ØTHENPRINT"ERROR IN DATA STATEM
   ENTS":STOP
40 PRINT"SYS49152 REMOVES REM SHIFT L'S FRO
   M":PRINT
50 PRINT"THE BASIC PROGRAM IN MEMORY. MAGIC
   !"
61 DATA 169,ØØØ,133,251,169,ØØ8,133,252
62 DATA 16Ø,ØØØ,177,251,2Ø1,143,2Ø8,Ø2Ø
63 DATA 192,255,2Ø8,ØØ2,23Ø,252,2ØØ,177
64 DATA 251,2Ø1,2Ø4,2Ø8,ØØ7,169,Ø32,145
65 DATA 251,Ø76,Ø1Ø,192,2ØØ,2Ø8,227,23Ø
66 DATA 252,165,252,197,174,2Ø8,219,Ø96
67 DATA 255
```

Ralph Neal
Nash, TX

$2B9 Magazine indexing—If you subscribe to *RUN* or any other publication, you know how hard it can be to search the back issues for a single memorable article. I've learned that most issues contain one or two articles that are more interesting to me than all the others combined. When each issue arrives, I identify those articles and write their names on the binding of the magazine. It is amazing how much search time that eliminates thereafter.

James Albrecht
Kalispell, MT

$2BA Cartridge repair—Don't discard faulty software cartridges until you've given them this CPR. First clean the metal contacts with a pencil eraser. If that doesn't help, disassemble the plastic case and use your fingers to apply even pressure to any socket-mounted components. Reassemble the case and try the cartridge again.

This procedure may or may not resuscitate your cartridge, but it works often enough to be worth a try.

Lee A. Seats
Mountville, PA

Circle 121 on Reader Service card.

PROTECTION REVEALED

ALL C-64

Take command of your software. End the spiral of buying copy-programs. *The Protection Revealed Handbook* unravels the puzzle of software protection. For authors and users – become a master of illusion. Learn how to protect or un-protect your software. Includes a large section on successful BASIC program security. Covers the latest evolution of copy protection techniques. Topics include:

Disk Errors	De-Compilers	Extra Sectors	Nibble Counting	Header Modification
Compilers	Density Changes	Gap Bytes	DOS Protection	Non-Standard Sectors
Half Tracks	Nibble Back-Up	Guard Band	Auto-Loaders	And much, much more

Reveals the mystical professional trade secrets of the Commodore 64 and 1541 Disk Drive. A disk containing 21 utility programs is included. This is the book for everyone!

Book & Disk **$19.95**

THE PROTECTOR

A menu-driven collection of programs which promises to mystify the curious. Basic file *Encryption* and *Decryption* are the heart of this system. Also includes autoboot maker, write and un-protect disks, fast disk eraser, ML to data statements, sector editor, relocates files to new location in memory, un-new scratched files, plus much more.

A dozen plus programs – the perfect companion for the book, *Protection Revealed.*

Disk **$19.95**

SUPER HELP

This is the programmer's friend – *three* aids for the price of one – a must for all users:

1. Poster size (21x25) screen and color memory map. Hang on the wall and never hunt for that *poke* location again.
2. One of the most complete C-64 memory maps available today. Compact and easy to read. Instructions included.
3. Set of 18 cheat cards. Includes: 1541 disk drive, DOS wedge, error messages, dassette, 1525, MPS-801, 1526, screen codes, Kernal ROM, sprites, color, sound, conversion charts, Pokes & Peeks, etc. Spiral bound.

All Three Items For: **$15.95**

PROGRAMMER'S KIT

Over 150 ready-to-run subroutines. Easy instructions on how to incorporate into your own programs. Why re-invent the wheel? Your time is valuable. Some of the types included are: TI$, protection, disk operation, printer operation, sorts, joy-ticks, input, graphics, complete alphabets, graphic screen prompts, sound, random choice. Program the easy way. Full documentation included.

Disk **$18.95**

PHONE BOOK/POSTAL CLERK

A must for small businesses, clubs, schools, or individuals.

2,500+ ENTRIES

Menu-driven, compatible with all printers. Auto save entries and changes. Sorts and prints phone book or address labels by name, city, state, ZIP code, or group. Eight user-definable mail lists in one program. Keep groups, friends, clubs, Christmas lists, etc. all separate.

Disk **$24.95**

BRAND X — THE DISK LIBRARIAN

Has your disk library grown? Can't find your favorite program when you need it? Are you tired of odd labels? If you answered "yes" to any of the above, *you* need *Brand X. Brand X* can catalog 40-plus disks in one file – this is over 4000 programs. Save the catalog file, add to, change, or delete when you want. Get rid of duplication and save disk space. Identifies 14 types of files. Disk commands include: format (in 10 seconds), validate, scratch, change disk ID, change disk name, plus directory. Prints custom disk labels (great for the generic user), lists used ID's and disk names, catalogs in one, two, or three columns. End disk confusion with *Brand X, The Disk Librarian.*

Disk **$19.95**

ATTENTION GUN RELOADERS:
BALLISTICS

Check trajectory for all popular rifle bullets by weight, caliber, or style. Includes tables for *Hornady* and *Speer* bullets, plus others. Allows for standard metro or high altitude and low temperatures. Prints out table of trajectory (choice of range increments), bullet drop, wind deflection, and more. If you reload your own shells, this program is a must!

Disk **$39.95**

$-SAVER SWITCH

Use the *$-Saver Switch* to connect two computers to one printer, or one disk drive. Better yet, use only one drive and one printer for two computers. A flip of the switch changes the device from one use to the other. Save dollars where more than one computer needs to access the same device. Plugs in – no alterations or extras.

V-20, C-64, C-16, Plus 4, C-128 **$29.95**

Your order will be shipped within 48 hours.

MasterCard VISA

VALUE-SOFT
9513 S.W. Barbur Boulevard, Dept. A-56
Portland, Oregon 97219 (503) 246-0924

Include check or money order – or charge your order to your VISA/MasterCard account.

Add $2 shipping on orders under $100 total. All orders over $100 will receive FREE shipping.

Dealer Inquiries Welcomed

CREATED BY USERS FOR USERS

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Lyco Computer Marketing & Consultants

1091.....$233

SAVE ON THESE IN STOCK PRINTERS

SG-10.....$208

AXIOM SEIKOSHA

GP50AT (Atari)	222
GP550CD (C-64)	222
GP700AT (Atari)	439
GP700AP (Apple)	439
FLITE5CD (C-64)	221

C. ITOH

ProWriter 8510Sp+	349
1550Sp+	489
StarWriter	769
PrintMaster	929

TOSHIBA

P1340	469
P351+	1149
P341P	969
P341S	999
351 Sheet Feeder	529

CARDCO

32K BUFFER (C-64)	59

CORONA

LP300 Laser Printer	2666
200361 Toner Cartridge	89

EPSON

FX85 (New)	333
LX80	212
FX185 (New)	464
LX90 (New)	226
SQ2000 (New)	1555
JX80	467
Homewriter 10	193
CR-20-Atari	153
CR-220-C-64	153
DX-10 (New)	207
DX-20 (New)	297
HS-80 (New)	288
LQ1500P	975
LQ1500S	1039
RX-100	356
FX-100+	CALL

CITIZEN

MSP-10	269
MSP-15	358
MSP-20	337
MSP-25	495
Sheetfdr (10/20)	169
Sheetfdr (15/25)	199

OKIDATA

Okimate 10	179
Okimate 20	CALL
182	214
192	348
193	563
92P	349
93P	565
84P	645
92 Imagewriter	349

*IBM versions also

BROTHER

HR-15XL-P	359
HR-15XL-S	359
HR-35P	839
HR-35S	839
2024L-P	949
M1009-P	189

JUKI

Juki 6100	347
RS232 Serial Board	55
6100 Tractor	119
6100 Sheet Feeder	209
Juki 6300	757

LEGEND

880	188
1080	222
1380	262
1385	296
LEGEND 808	159

DIGITAL DEVICES

16K BUFFER	75
32K BUFFER	89
64K BUFFER	125

DIABLO

D25	549
630 API	1599
630 ECS	1759
D 80 1F	2395
P 32 CQ1	699
P 38	1749
C 150	999
DX-35 (NEW)	CALL
AP-80	CALL

PANASONIC

1091	***233***
3131 (NEW)	269
1092	373
1093	426
3151 Letter	426
4K Buffer	65

SILVER REED

EXP400	249
EXP500	295
EXP550	399
EXP770	749

STAR MICRONICS

SG-10	**208**
SG-15	373
SD-10	336
SD-15	442
SR-10	483
SR-15	583
SB 10	595
Power Type	303
SG 10 C-64 (NEW)	CALL

MONITORS

AMDEK

300 Green	118
300 Amber	128
310 Amber IBM	155
Color 300 Audio	234
Color 500 Composite	369
Color 600	397
Color 700	495
Color 710	569

TEKNIKA

MJ-10 Composite	179
MJ-22 RGB	255

PANASONIC

DT1300D 13" RGB/Composite	247
DTM140 14" RGB/Composite	329
DTH103 10" RGB Hi Res	395
DTS101 10" Composite	175
DT1000G 10" RGB	166
TX12HGP 12" Color	419
TR120M1PA 12" Green	109
TR120MBPA 12" Amber	109
TR122M9P 12" Green IBM	148
TR122MYP 12" Amber IBM	148

X-TRON

Comcolor I Composite Green	177

TAXAN

115 12" Greeen Composite	CALL
116 12" Amber Composite	CALL
121 12" Green TTL	135
122 12" Amber TTL	145
220 14" Color Composite	259
410 12" RGB Hi Res IBM	329
420 12" RGB Super Hi IBM	409
440 12" RGB Ultra Hi Res	555

PRINCETON GRAPHICS

MAX-12 Amber	185
HX-12 RGB	465
SR-12 RGB	595

SAKATA

SG 1000 12" Green	95
SA 1000 12" Amber	105
SG 1500 12" Green TTL	119
SA 1500 12" Amber TTL	129
SC 100 13" Color Comp	209
SC 200 13" RGB	389

NEC

JB-1260 Green	95
JB-1201 Green	135
JC 1215 Color	235
JC 1216 RGB	375
JC 1460 Color	265

ZENITH

ZVM 122A Amber	75
ZVM 123G Green	75
ZVM 124 Amber IBM	129
ZVM 131 Color	275
ZVM 133 RGB	389
ZVM 135 Composite	449
ZVM 136 Hi Res Color	589
ZVM 1220	95
ZVM 1230	95
ZVM 1240	149

MODEMS

HAYES

Smartmodem 300	133
Smartmodem 1200	377
Smartmodem 1200B	347
Smartmodem 2400	598
Micromodem IIE	135

TELE LEARNING

Total Telecommunications (C-64)	29.95
AP-250 (300 Baud Apple)	69.95
IB-250 (300 Baud IBM)	69.95

ANCHOR

Volksmodem	55
Volksmodem 12	186

RACAL-VADIC

2400PC	549
2400PA	799
2400V	559
1200PC	329
300V	205
300PC	199

DRIVES

INDUS

GT ATARI	***215***
GT COMMODORE	235

COMTEL

Enhancer 2000 (c-64)	179

MSD

SD1 Drive (C-64)	229
SD2 Drive (C-64)	469

DISKETTES

DENNISON

ELEPHANT 5¼" SSSD	11.99
ELEPHANT 5¼" SSDD	12.99
ELEPHANT 5¼" DSDD	14.99
PREMIUM 5¼" SSDD	13.99
PREMIUM 5¼" DSDD	15.99

VERBATIM

5¼" SSDD	13.99
5¼" DSDD	19.99

BONUS

5¼" SSDD	9.99
5¼" DSDD	12.99

COMMODORE

C-128 NEW	CALL
1571 Drive	CALL
1572 Drive	CALL
1902 Monitor	CALL
1670 Modem	CALL
C-64 Computer	CALL
1541 Drive	189
MPS801 Printer	LOW
1702 Monitor	199
Simon's Basic	24.75
Assembler 64	34.75
Super Expander	22.75
Logo 64	49.75
Pilot 64	38.75

CARDCO

Digitizer Camera	189.95
32K Printer Buffer	59.95
Numeric Keypad	34.95
CB/5 5-slot Board(64)	54.00
CB/2 2-slot Board(64)	25.00
S'More Basic Rom	49.95
Write Now-64	35.00
Mail Now-64	29.00
Spell Now-64	29.00
File Now-64	29.00
Paint Now-64	29.00
Calc Now-64	29.00
Tax Survival	29.00
Super Printer Utility	27.95
Write Now-Vic-20	29.95

BRODERBUND

The Print Shop	28.75
Graphics Library	18.75
Graphics Library II	19.75
Graphics Library III	19.95
Karateka	19.75
Castles Dr. Creep	19.75
Bank St. Writer	32.75
Loderunner	20.75
Mask of the Sun	24.75
Spelunker	19.75
Serpent's Star	24.75
Whistler's Brother	18.75
aid Bungeling Bay	18.75

QR & D

Copy Q.....27.95	
GPC Printer Interface	65.00

MICROPROSE (C-64)

Kennedy Approach	21.75
Crusade in Europe	24.75
Decision in Desert	24.75
Solo Flight	20.75
Nato Commander	20.75
Spitfire Ace	18.75
F-15 Strike Eagle	20.75
Hellcat Ace	18.75
Acrojet	21.75
Silent Service	21.75

SUB LOGIC (C-64)

Flight Simulator II....32.75	
Night Mission Pinball	20.75

TOLL FREE 1-800-233-8760

MasterCard TO ORDER

CALL TOLL FREE

800-233-8760

Customer Service 1-717-327-1825

VISA

or send order to
Lyco Computer
P.O. Box 5088
Jersey Shore, PA
17740

RISK FREE POLICY

In-stock items shipped within 24 hours of order. No deposit on C.O.D. orders. Free shipping on prepaid cash orders within the continental U.S. Volume discounts available. PA residents add sales tax. APO, FPO, and international orders add $5.00 plus 3% for priority mail service. Advertised prices show 4% discount for cash, add 4% for MasterCard or Visa. Personal checks require 4 weeks' clearance before shipping. Ask about UPS Blue and Red label shipping. All merchandise carried under manufacturer's warranty. Free catalog with order. All items subject to change without notice.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

From p. 39.

Listing 1 continued.

http://www.oldgamesitalia.net/

```
128Ø DATAØ,Ø,Ø,Ø,Ø,15,15,15          :REM*181
129Ø DATA1,1,1,1,1,1,1,15             :REM*233
13ØØ DATAØ,Ø,Ø,Ø,12,12,12,12          :REM*125
131Ø DATA3,3,3,3,Ø,Ø,Ø,Ø              :REM*213
132Ø DATA2,2,2,14,Ø,Ø,Ø,Ø             :REM*175
133Ø DATA12,12,12,12,Ø,Ø,Ø,Ø          :REM*155
134Ø DATA12,12,12,12,3,3,3,3          :REM*165
135Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*253
136Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø                :REM*7
137Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*17
138Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*27
139Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*37
14ØØ DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*47
141Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*57
142Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*67
143Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*77
144Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*87
145Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*97
146Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*1Ø7
147Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*117
148Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*127
149Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*137
15ØØ DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*147
151Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*157
152Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*167
153Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*177
154Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*188
155Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*198
156Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*2Ø8
157Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*218
158Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*228
159Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*238
16ØØ DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*248
161Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø                :REM*2
162Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*12
163Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*22
164Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*32
165Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø               :REM*42
166Ø DATAØ,Ø,Ø,Ø,Ø,Ø,Ø,Ø              :REM*52
167Ø DATA173,Ø,3,2Ø1,228,24Ø,31,169:REM*174
168Ø DATA63,141,231,49,169,77,141,232
                                      :REM*56
169Ø DATA49,169,228,141,Ø,3,169,3     :REM*9Ø
17ØØ DATA141,1,3,162,7,189,39,33     :REM*2Ø4
171Ø DATA157,228,3,2Ø2,16,247,96,169
                                      :REM*136
172Ø DATA1,141,Ø,255,76,47,33,142    :REM*216
173Ø DATA229,49,224,11,2Ø8,16,32,134
                                      :REM*158
174Ø DATA3,2Ø5,233,49,2Ø8,8,1Ø4,1Ø4   :REM*34
175Ø DATA76,241,33,174,229,49,173,Ø:REM*148
176Ø DATA255,41,241,141,Ø,255,1Ø8,231
                                      :REM*3Ø
177Ø DATA49,162,1,32,128,3,221,97    :REM*13Ø
178Ø DATA33,2Ø8,232,2Ø2,16,245,76,33:REM*94
179Ø DATA38,82,65,32,128,3,2Ø1,84    :REM*2Ø6
18ØØ DATA2Ø8,217,76,249,37,162,1,32   :REM*31
181Ø DATA128,3,221,125,33,2Ø8,2Ø4,2Ø2
                                      :REM*251
182Ø DATA16,245,76,13,43,84,145,162:REM*149
183Ø DATA2,32,128,3,221,143,33,2Ø8   :REM*241
184Ø DATA186,2Ø2,16,245,76,159,34,84:REM*89
185Ø DATA88,69,32,128,3,2Ø1,244,2Ø8:REM*239
186Ø DATA17Ø,76,185,5Ø,162,4,32,128:REM*163
187Ø DATA3,221,172,33,2Ø8,157,2Ø2,16:REM*55
188Ø DATA245,76,185,5Ø,76,76,79,82   :REM*159
189Ø DATA67,162,4,32,128,3,221,193   :REM*137
19ØØ DATA33,2Ø8,136,2Ø2,16,245,76,2Ø3
                                      :REM*111
191Ø DATA47,83,85,82,76,65,32,128     :REM*99
192Ø DATA3,162,3,221,214,33,24Ø,1Ø    :REM*21
193Ø DATA2Ø2,16,248,76,67,33,6,7      :REM*61
194Ø DATA31,33,189,233,33,141,232,33   :REM*1
195Ø DATA189,237,33,141,231,33,76,Ø:REM*223
196Ø DATAØ,5Ø,5Ø,44,45,185,185,88     :REM*71
197Ø DATA1Ø6,32,128,3,2Ø1,254,24Ø,2Ø6
                                      :REM*167
198Ø DATA2Ø1,235,2Ø8,3,76,99,33,162:REM*161
199Ø DATA8,221,54,34,24Ø,57,2Ø2,16   :REM*253
2ØØØ DATA248,2Ø1,66,2Ø8,3,76,81,33   :REM*123
2Ø1Ø DATA2Ø1,7Ø,2Ø8,3,76,1Ø9,33,2Ø1:REM*171
2Ø2Ø DATA72,2Ø8,3,76,146,33,2Ø1,83   :REM*233
2Ø3Ø DATA2Ø8,3,76,156,33,2Ø1,84,2Ø8    :REM*1
2Ø4Ø DATA3,76,127,33,2Ø1,87,2Ø8,3    :REM*133
2Ø5Ø DATA76,177,33,76,67,33,229,224:REM*1ØØ
2Ø6Ø DATA225,156,244,222,147,148,223,189
                                      :REM*82
2Ø7Ø DATA78,34,141,77,34,189,87,34   :REM*242
2Ø8Ø DATA141,76,34,76,Ø,Ø,35,39      :REM*126
2Ø9Ø DATA37,34,43,34,46,46,5Ø,63     :REM*146
21ØØ DATA2Ø7,8Ø,218,155,96,96,24,185
                                      :REM*1Ø4
211Ø DATA32,128,3,32,9,136,138,41     :REM*18
212Ø DATA15,141,235,49,32,9,136,138:REM*196
213Ø DATA1Ø,1Ø,1Ø,1Ø,13,235,49,141   :REM*168
214Ø DATA235,49,168,173,Ø,255,41,254
                                      :REM*14Ø
215Ø DATA141,Ø,255,169,25,141,Ø,214:REM*148
216Ø DATA173,1,214,9,128,41,191,162:REM*172
217Ø DATA25,142,Ø,214,141,1,214,232   :REM*12
218Ø DATA142,Ø,214,14Ø,1,214,96,32    :REM*212
219Ø DATA128,3,162,Ø,32,224,34,173    :REM*254
22ØØ DATA235,49,41,24Ø,32,122,34,162
                                      :REM*146
221Ø DATA25,142,Ø,214,173,1,214,41     :REM*22
222Ø DATA127,9,64,142,Ø,214,141,1      :REM*92
223Ø DATA214,173,Ø,255,41,2Ø7,141,Ø:REM*232
224Ø DATA255,32,39,192,169,147,32,21Ø
                                      :REM*76
225Ø DATA255,173,Ø,255,9,48,141,Ø    :REM*122
226Ø DATA255,96,32,128,3,32,9,136    :REM*244
227Ø DATA142,221,49,173,Ø,255,41,254
                                      :REM*164
228Ø DATA141,Ø,255,169,Ø,16Ø,Ø,162   :REM*13Ø
229Ø DATA18,32,145,48,169,255,141,237
                                      :REM*32
23ØØ DATA49,162,Ø,32,6,35,232,224    :REM*222
231Ø DATA64,2Ø8,248,76,46,35,173,221
                                      :REM*161
232Ø DATA49,32,172,48,169,24,141,Ø    :REM*43
233Ø DATA214,173,1,214,41,127,72,169
                                      :REM*161
234Ø DATA24,141,Ø,214,1Ø4,141,1,214:REM*247
235Ø DATA169,3Ø,141,Ø,214,173,237,49
                                      :REM*143
236Ø DATA141,1,214,76,185,48,16Ø,24   :REM*13
237Ø DATA14Ø,Ø,214,173,1,214,9,128   :REM*193
238Ø DATA14Ø,Ø,214,141,1,214,96,32   :REM*221
239Ø DATA128,3,32,135,49,32,9,136    :REM*2Ø9
24ØØ DATA142,7,5Ø,173,Ø,255,41,254    :REM*71
241Ø DATA141,Ø,255,32,113,35,32,237   :REM*19
242Ø DATA36,173,21Ø,49,237,2Ø4,49,173
                                      :REM*237
243Ø DATA211,49,237,2Ø5,49,144,1,96:REM*189
244Ø DATA32,99,36,32,237,36,76,89    :REM*121
245Ø DATA35,56,173,2ØØ,49,237,196,49:REM*73
246Ø DATA141,2Ø4,49,173,2Ø1,49,237,197
                                      :REM*187
247Ø DATA49,141,2Ø5,49,56,173,2Ø2,49:REM*11
248Ø DATA237,198,49,141,2Ø6,49,173,2Ø3
                                      :REM*173
249Ø DATA49,237,199,49,141,2Ø7,49,162
                                      :REM*1Ø9
25ØØ DATAØ,142,212,49,142,218,49,142
                                      :REM*155
251Ø DATA213,49,142,215,49,142,217,49
                                      :REM*185
252Ø DATA142,219,49,232,142,214,49,142
                                      :REM*83
253Ø DATA216,49,173,2Ø5,49,16,27,24:REM*211
```

→

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER

Thanks for waiting ... BILLBOARD MAKER, the Ultimate Graphic Utility, IS FINALLY HERE!!!

IMAGINE TAKING YOUR USUAL 8½ inch by 6½ inch output AND ENLARGING IT TO 4 FEET BY 3 FEET !!!!

* * * SIMPLY INCREDIBLE * * *

Billboard Maker brings you the capability of enlarging your computer graphic masterpieces into attractive poster and "BILLBOARD" size reproductions.

"If you've ever wanted to use your own graphic pictures and never could, BILLBOARD MAKER opens a whole new world for you!!! You'll be able to take your original computer art and create effects you never thought could be done. BILLBOARD MAKER is a MUST addition for graphic applications never before available.

- *DUMP shaded standard and ENLARGED graphic pictures to your printer QUICKLY and EASILY*
- *Overlay specially designed TEXT fonts and ICONS on your enlargements - A TRUE SIGN MAKER*
- *Allows re-drawing of details to enlarged sections resulting in incredible resolutions!!!*
- *Easy to use utility to bring your pictures into your OWN PROGRAMS!!!*
- *CONVERT picture file formats to other product formats*
- *SMOOTH those ragged lines with the amazing "OPTIMIZER"*
- *FLIP pictures for iron-on applications*
- *STRIP color from your picture*
- *REVERSE picture to negative - CROP and FRAME pictures*
- *AND MANY MORE GREAT FEATURES PROFESSIONAL RESULTS - EASY and FUN to USE*

BILLBOARD MAKER works as a stand alone product as well as with picture files generated by the following products;

ANIMATION STATION	*COMPUTER EYES*	*FLEXIDRAW*	*PRINT SHOP*
BLAZING PADDLES	*DOODLE*	*KOALA*	*SUPERSKETCH*

EQUIPMENT REQUIRED: Commodore 64, TV or Monitor, 1541 Disk Drive, Printer (required for print dumps)

BILLBOARD MAKER c 1985 SOLUTIONS UNLIMITED INC.

DISTRIBUTOR/DEALER INQUIRES CALL
RELEVANT SOFTWARE MARKETING
914/683-5158

ANIMATION STATION c SUNCOM. COMPUTER EYES c DIGITAL VISION. FLEXIDRAW c INKWELL. PRINT SHOP c BRODERBUND SOFTWARE. BLAZING PADDLES c BAUDVILLE. DOODLE c OMNI. KOALAc KOALA TECHNOLOGIES CORP. SUPERSKETCH c PERSONAL PERIPHERIALS. COMMODORE 64 c COMMODORE BUSINESS MACHINES

Circle 86 on Reader Service card.

MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER

MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER

MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER
MAKER BILLBOARD MAKER BILLBOARD MAKER

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
254Ø DATA169,255,141,216,49,141,217,49
                                        :REM*153
255Ø DATA77,2Ø4,49,1Ø5,1,141,2Ø4,49:REM*239
256Ø DATA173,2Ø5,49,73,255,1Ø5,Ø,141
                                        :REM*22Ø
257Ø DATA2Ø5,49,173,2Ø7,49,16,27,24:REM*2Ø6
258Ø DATA169,255,141,214,49,141,215,49
                                        :REM*158
259Ø DATA77,2Ø6,49,1Ø5,1,141,2Ø6,49 :REM*3Ø
26ØØ DATA173,2Ø7,49,73,255,1Ø5,Ø,141 :REM*8
261Ø DATA2Ø7,49,56,173,2Ø4,49,237,2Ø6
                                        :REM*128
262Ø DATA49,173,2Ø5,49,237,2Ø7,49,176
                                        :REM*122
263Ø DATA74,173,2Ø5,49,141,211,49,173
                                        :REM*152
264Ø DATA2Ø4,49,141,21Ø,49,173,2Ø6,49
                                        :REM*1Ø6
265Ø DATA141,2Ø4,49,173,2Ø7,49,141,2Ø5
                                        :REM*136
266Ø DATA49,173,21Ø,49,141,2Ø6,49,173
                                        :REM*234
267Ø DATA211,49,141,2Ø7,49,173,216,49
                                        :REM*196
268Ø DATA141,212,49,173,217,49,141,213
                                        :REM*236
269Ø DATA49,162,Ø,142,216,49,142,217:REM*88
27ØØ DATA49,173,214,49,141,218,49,173
                                        :REM*146
271Ø DATA215,49,141,219,49,142,214,49
                                        :REM*158
272Ø DATA142,215,49,173,2Ø5,49,74,141
                                        :REM*238
273Ø DATA2Ø9,49,173,2Ø4,49,1Ø6,141,2Ø8
                                         :REM*98
274Ø DATA49,162,1,142,21Ø,49,2Ø2,142
                                        :REM*124
275Ø DATA211,49,96,24,173,196,49,1Ø9
                                        :REM*214
276Ø DATA216,49,141,196,49,173,197,49
                                         :REM*38
277Ø DATA1Ø9,217,49,141,197,49,24,173
                                        :REM*124
278Ø DATA198,49,1Ø9,218,49,141,198,49
                                        :REM*216
279Ø DATA173,199,49,1Ø9,219,49,141,199
                                        :REM*228
28ØØ DATA49,24,173,2Ø8,49,1Ø9,2Ø6,49:REM*46
281Ø DATA141,2Ø8,49,173,2Ø9,49,1Ø9,2Ø7
                                        :REM*13Ø
282Ø DATA49,141,2Ø9,49,238,21Ø,49,2Ø8
                                        :REM*115
283Ø DATA3,238,211,49,56,173,2Ø4,49:REM*149
284Ø DATA237,2Ø8,49,173,2Ø5,49,237,2Ø9
                                         :REM*23
285Ø DATA49,176,57,56,173,2Ø8,49,237:REM*37
286Ø DATA2Ø4,49,141,2Ø8,49,173,2Ø9,49
                                        :REM*231
287Ø DATA237,2Ø5,49,141,2Ø9,49,24,173
                                        :REM*173
288Ø DATA196,49,1Ø9,212,49,141,196,49
                                        :REM*229
289Ø DATA173,197,49,1Ø9,213,49,141,197
                                        :REM*229
29ØØ DATA49,24,173,198,49,1Ø9,214,49
                                        :REM*175
291Ø DATA141,198,49,173,199,49,1Ø9,215
                                        :REM*241
292Ø DATA49,141,199,49,96,173,196,49
                                        :REM*125
293Ø DATA133,252,173,198,49,133,254,173
                                          :REM*7
294Ø DATA197,49,133,253,32,2,37,76   :REM*69
295Ø DATA25,37,32,191,48,165,252,41:REM*219
296Ø DATA7,17Ø,189,72,37,141,223,49:REM*157
297Ø DATA162,18,165,251,164,25Ø,76,145
                                        :REM*39
298Ø DATA48,173,7,5Ø,24Ø,2,169,128 :REM*155
299Ø DATA141,224,49,32,2,37,32,161 :REM*119
3ØØØ DATA48,141,221,49,141,222,49,32
                                        :REM*245
3Ø1Ø DATA16,37,173,223,49,44,224,49 :REM*51
3Ø2Ø DATA48,8,73,255,45,221,49,76    :REM*83
3Ø3Ø DATA69,37,13,221,49,76,172,48 :REM*169
3Ø4Ø DATA128,64,32,16,8,4,2,1          :REM*5
3Ø5Ø DATA32,128,3,32,135,49,32,9     :REM*23
3Ø6Ø DATA136,142,7,5Ø,173,196,49,141
                                        :REM*185
3Ø7Ø DATA243,49,173,197,49,141,244,49
                                        :REM*123
3Ø8Ø DATA173,198,49,141,245,49,173,199
                                        :REM*244
3Ø9Ø DATA49,141,246,49,173,2ØØ,49,141
                                        :REM*198
31ØØ DATA247,49,173,2Ø1,49,141,248,49
                                        :REM*24Ø
311Ø DATA173,2Ø2,49,141,249,49,173,2Ø3
                                        :REM*154
312Ø DATA49,141,25Ø,49,173,247,49,141
                                         :REM*18
313Ø DATA2ØØ,49,173,248,49,141,2Ø1,49
                                        :REM*174
314Ø DATA173,245,49,141,2Ø2,49,173,246
                                        :REM*182
315Ø DATA49,141,2Ø3,49,32,75,35,173:REM*126
316Ø DATA247,49,141,2ØØ,49,173,248,49
                                        :REM*18Ø
317Ø DATA141,2Ø1,49,173,249,49,141,2Ø2
                                         :REM*76
318Ø DATA49,173,25Ø,49,141,2Ø3,49,32:REM*7Ø
319Ø DATA75,35,173,243,49,141,2ØØ,49:REM*52
32ØØ DATA173,244,49,141,2Ø1,49,173,249
                                         :REM*96
321Ø DATA49,141,2Ø2,49,173,25Ø,49,141
                                         :REM*32
322Ø DATA2Ø3,49,32,75,35,173,243,49 :REM*36
323Ø DATA141,2ØØ,49,173,244,49,141,2Ø1
                                        :REM*18Ø
324Ø DATA49,173,245,49,141,2Ø2,49,173
                                        :REM*15Ø
325Ø DATA246,49,141,2Ø3,49,32,75,35:REM*244
326Ø DATA96,32,128,3,32,161,49,32  :REM*244
327Ø DATA9,136,142,7,5Ø,173,2ØØ,49  :REM*62
328Ø DATA141,196,49,173,2Ø1,49,141,197
                                         :REM*8Ø
329Ø DATA49,173,2Ø2,49,141,198,49,173
                                        :REM*156
33ØØ DATA2Ø3,49,141,199,49,32,75,35:REM*2Ø8
331Ø DATA96,32,128,3,32,161,49,173 :REM*2Ø8
332Ø DATA2ØØ,49,141,196,49,173,2Ø1,49
                                         :REM*54
333Ø DATA141,197,49,173,2Ø2,49,141,198
                                         :REM*21
334Ø DATA49,32,9,136,142,2ØØ,49,138:REM*189
335Ø DATA74,141,251,49,32,9,136,142 :REM*47
336Ø DATA2Ø2,49,32,9,136,224,199,176:REM*11
337Ø DATA56,24Ø,54,142,252,49,32,9  :REM*65
338Ø DATA136,142,7,5Ø,142,8,5Ø,173  :REM*59
339Ø DATA196,49,141,253,49,173,197,49
                                         :REM*83
34ØØ DATA141,254,49,141,Ø,5Ø,141,2 :REM*111
341Ø DATA5Ø,141,4,5Ø,173,198,49,141:REM*1Ø3
342Ø DATA249,49,56,237,2Ø2,49,141,5:REM*197
343Ø DATA5Ø,56,237,252,49,2Ø1,199,144
                                        :REM*157
344Ø DATA1,96,173,196,49,24,1Ø9,251:REM*127
345Ø DATA49,141,255,49,144,6,238,Ø :REM*187
346Ø DATA5Ø,238,2,5Ø,24,173,255,49  :REM*69
347Ø DATA1Ø9,2ØØ,49,141,1,5Ø,144,3 :REM*123
348Ø DATA238,2,5Ø,173,2,5Ø,2Ø1,2    :REM*87
```

→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MOVING?
SUBSCRIPTION PROBLEM?

Get help with your subscription by calling our new toll free number:

1-800-645-9559*

between 9 a.m. and 5 p.m. EST, Monday–Friday.

If possible, please have your mailing label in front of you as well as your cancelled check or credit card statement if you are having problems with payment.

If moving, please give both your old address and new address.

* New York State residents call 1-800-732-9119.

Circle 54 on Reader Service card.

FREE GAME OFFER

VOTALKER C-64

New From Votrax

- Easy to Use — Plug In and Speak
- Clear, Unlimited Speech
- Screen Echo Speaks Words and Symbols
- Character Mode Spells Each Word
- Rate, Pitch and Volume Controls
- Completely ROM Based, No Software to Load
- Self-Contained Speaker

The ultimate speech synthesizer for the Commodore 64.

Also Introducing Trivia Talker II*

- Votalker C-64 Version of Votrax's Popular Talking Trivia Game
- Five Game Categories for Up to Four Players
- Create Your Own Questions and Answers
- Multiple Choice Questions With Timed Responses
- Questions and Answers Displayed and Announced

Special Offer

- Buy Votalker C-64 for **$99.95**
- Get Trivia Talker II ~~$39.95~~ **FREE**

Other Votrax Products:

- PSS, T-N-T, Stand-Alone Devices
- IBM, Apple II Plug In Board Synthesizers
- Votrax Speech Chips

votrax

VOTRAX, INC.
1394 Rankin Troy, Michigan 48083-4078
(313) 588-2050 TWX 810-232-1140 Votrax TRMI

Call Votrax at (800) 521-1350

*Trivia Talker I operates only through the Commodore 64 on board SID chip. Price: $39.95

Circle 151 on Reader Service card.

NOW GET TRUE DESCENDERS FOR 801, 1525, 803, GP-100, HUSH 80 & SIMILAR PRINTERS

From the Descender ROM People

WILANTA ARTS

SAMPLE ACTUAL SIZE

FEATURING:

gypsy
pager
peopl

- True descenders
- A pleasing alternative
- Uniform character formation
- No change in graphic capability
- No change in software compatibility
- No change in printer operation
- North American standard font
- Complete instructions
- Easy installation
- No soldering

$39.95 Cdn $29.95 U.S.

Ont. Residents add 7% Prov. Sales Tax
Cheque, Money Order, Visa or MasterCard

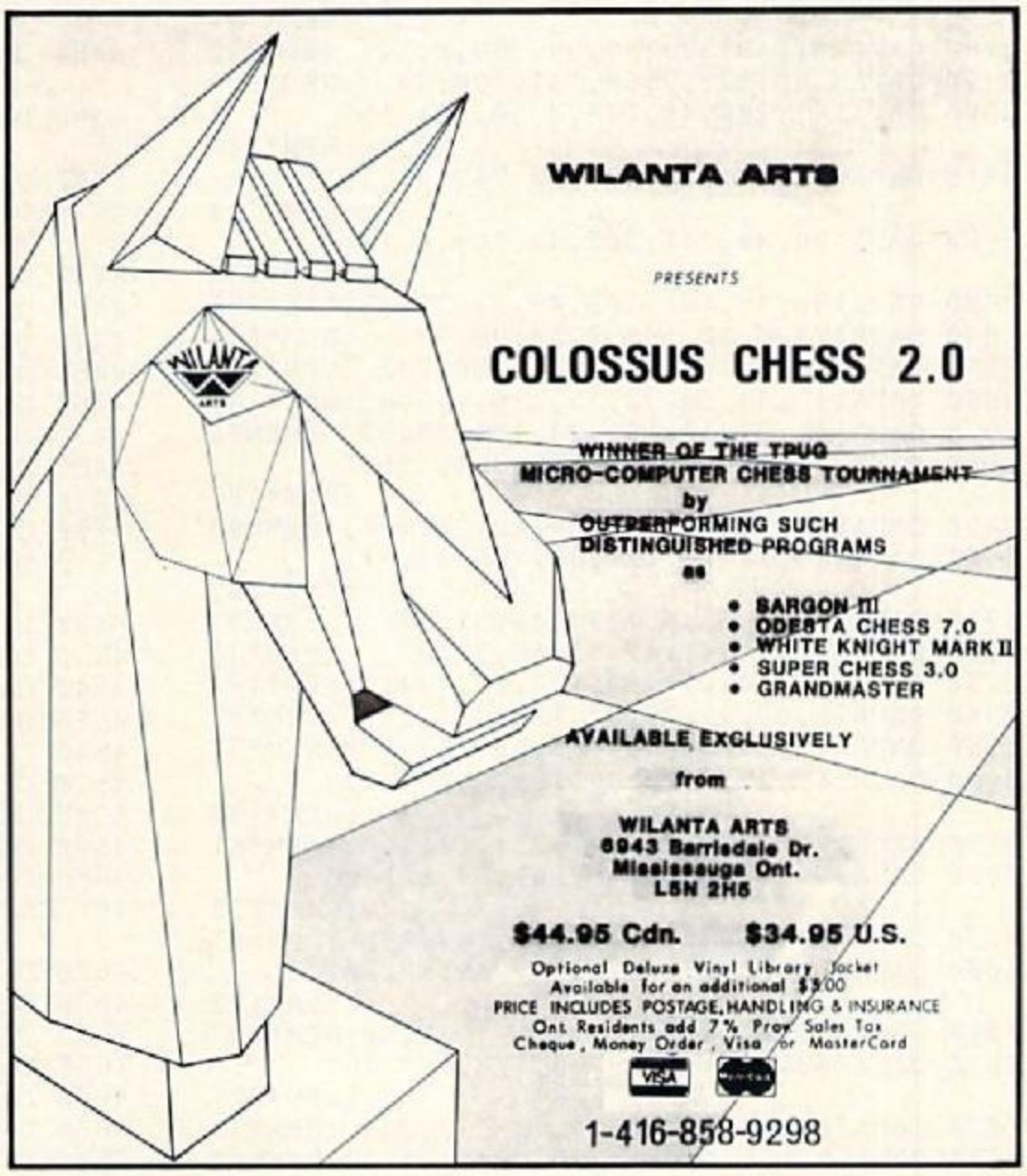
VISA

WILANTA ARTS
6943 Barrisdale Dr.
Mississauga Ont.
L5N 2H5

1-416-858-9298

Get a Wilanta Descender ROM Today and make your old nightmare Just a font memory of yesterday!

Circle 129 on Reader Service card.



http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
349Ø DATA144,11,2Ø1,3,176,211,173,1:REM*1Ø9
35ØØ DATA5Ø,2Ø1,127,176,2Ø4,24,173,253
                                    :REM*157
351Ø DATA49,1Ø9,2ØØ,49,141,3,5Ø,144:REM*233
352Ø DATA3,238,4,5Ø,169,1,141,6      :REM*47
353Ø DATA5Ø,173,6,5Ø,2Ø8,6,32,7      :REM*75
354Ø DATA39,24,144,3,32,79,39,2Ø6    :REM*61
355Ø DATA249,49,2Ø6,5,5Ø,2Ø6,252,49:REM*143
356Ø DATA173,252,49,2Ø5,2Ø2,49,176,5
                                    :REM*231
357Ø DATA169,Ø,141,6,5Ø,173,252,49 :REM*1Ø3
358Ø DATA2Ø1,199,144,213,169,Ø,141,7:REM*95
359Ø DATA5Ø,141,8,5Ø,76,79,39,173  :REM*182
36ØØ DATA253,49,141,196,49,174,254,49
                                    :REM*172
361Ø DATA142,197,49,172,249,49,14Ø,198
                                    :REM*212
362Ø DATA49,173,255,49,141,2ØØ,49,174
                                    :REM*92
363Ø DATAØ,5Ø,142,2Ø1,49,172,5,5Ø    :REM*6Ø
364Ø DATA14Ø,2Ø2,49,32,189,39,173,255
                                    :REM*222
365Ø DATA49,141,196,49,174,Ø,5Ø,142:REM*184
366Ø DATA197,49,172,5,5Ø,14Ø,198,49:REM*254
367Ø DATA173,1,5Ø,141,2ØØ,49,174,2 :REM*212
368Ø DATA5Ø,142,2Ø1,49,32,189,39,173:REM*36
369Ø DATA1,5Ø,141,196,49,174,2,5Ø  :REM*144
37ØØ DATA142,197,49,172,5,5Ø,192,2ØØ
                                    :REM*236
371Ø DATA144,2,16Ø,Ø,14Ø,198,49,173 :REM*6Ø
372Ø DATA3,5Ø,141,2ØØ,49,174,4,5Ø    :REM*42
373Ø DATA142,2Ø1,49,172,249,49,14Ø,2Ø2
                                    :REM*148
374Ø DATA49,32,189,39,173,3,5Ø,141 :REM*244
375Ø DATA196,49,174,4,5Ø,142,197,49 :REM*86
376Ø DATA172,249,49,14Ø,198,49,173,253
                                    :REM*1Ø8
377Ø DATA49,141,2ØØ,49,174,254,49,142
                                    :REM*124
378Ø DATA2Ø1,49,32,189,39,169,Ø,141 :REM*92
379Ø DATA7,5Ø,173,3,5Ø,141,196,49  :REM*2Ø6
38ØØ DATA141,2ØØ,49,173,4,5Ø,141,197
                                    :REM*248
381Ø DATA49,141,2Ø1,49,173,249,49,141
                                    :REM*174
382Ø DATA198,49,141,2Ø2,49,169,Ø,141
                                    :REM*24Ø
383Ø DATA199,49,141,2Ø3,49,32,75,35:REM*228
384Ø DATA173,8,5Ø,141,7,5Ø,96,32    :REM*1Ø5
385Ø DATA128,3,162,Ø,142,43,5Ø,232 :REM*223
386Ø DATA142,44,5Ø,32,15,136,165,22:REM*145
387Ø DATA141,27,5Ø,165,23,141,28,5Ø  :REM*5
388Ø DATA2Ø1,2Ø8,144,9,2Ø1,224,176,5
                                    :REM*127
389Ø DATA169,14,141,43,5Ø,32,15,136 :REM*99
39ØØ DATA165,22,141,29,5Ø,165,23,141
                                    :REM*247
391Ø DATA3Ø,5Ø,32,9,136,142,31,5Ø     :REM*1
392Ø DATA32,9,136,142,32,5Ø,32,9     :REM*35
393Ø DATA136,142,33,5Ø,224,17,144,3:REM*1Ø3
394Ø DATA76,67,33,32,92,121,32,2ØØ  :REM*99
395Ø DATA42,141,34,5Ø,165,36,133,158:REM*97
396Ø DATA165,37,133,159,169,Ø,141,237
                                    :REM*185
397Ø DATA49,173,Ø,255,41,254,141,Ø  :REM*61
398Ø DATA255,173,237,49,2Ø5,34,5Ø,2Ø8
                                    :REM*133
399Ø DATA1,96,168,174,44,5Ø,169,158 :REM*53
4ØØØ DATA32,116,255,238,237,49,32,2Ø1
                                    :REM*173
4Ø1Ø DATA41,224,Ø,2Ø8,228,174,33,5Ø:REM*147
4Ø2Ø DATA2Ø8,34,141,35,5Ø,173,237,49
                                    :REM*221
4Ø3Ø DATA2Ø5,34,5Ø,2Ø8,4,169,32,2Ø8 :REM*39
4Ø4Ø DATA19,168,174,44,5Ø,169,158,32:REM*63
4Ø5Ø DATA116,255,238,237,49,32,2Ø1,41
                                    :REM*31
4Ø6Ø DATA224,Ø,2Ø8,225,141,36,5Ø,32 :REM*81
4Ø7Ø DATA127,42,174,33,5Ø,2Ø8,51,169:REM*89
4Ø8Ø DATA255,141,38,5Ø,173,35,5Ø,32 :REM*33
4Ø9Ø DATA1Ø6,42,16Ø,7,32,254,42,1Ø :REM*169
41ØØ DATA1Ø,1Ø,1Ø,153,49,5Ø,136,16  :REM*9Ø
411Ø DATA243,173,36,5Ø,32,1Ø6,42,16Ø
                                    :REM*25Ø
412Ø DATA7,32,254,42,41,15,25,49     :REM*66
413Ø DATA5Ø,153,49,5Ø,136,16,242,76 :REM*66
414Ø DATA78,41,173,36,5Ø,32,1Ø6,42  :REM*98
415Ø DATA16Ø,7,32,254,42,153,49,5Ø  :REM*52
416Ø DATA136,16,247,169,Ø,17Ø,16Ø,127
                                    :REM*152
417Ø DATA153,57,5Ø,136,16,25Ø,16Ø,7:REM*24Ø
418Ø DATA173,33,5Ø,141,38,5Ø,185,188:REM*38
419Ø DATA49,61,49,5Ø,24Ø,2,169,255 :REM*174
42ØØ DATA141,47,5Ø,173,47,5Ø,1Ø,62 :REM*152
421Ø DATA57,5Ø,62,65,5Ø,62,73,5Ø     :REM*3Ø
422Ø DATA62,81,5Ø,62,89,5Ø,62,97    :REM*224
423Ø DATA5Ø,62,1Ø5,5Ø,62,113,5Ø,62 :REM*232
424Ø DATA121,5Ø,62,129,5Ø,62,137,5Ø :REM*48
425Ø DATA62,145,5Ø,62,153,5Ø,62,161:REM*232
426Ø DATA5Ø,62,169,5Ø,62,177,5Ø,24  :REM*3Ø
427Ø DATA2Ø6,38,5Ø,2Ø8,198,136,16,176
                                    :REM*56
428Ø DATA232,224,8,2Ø8,169,169,Ø,141
                                    :REM*182
429Ø DATA38,5Ø,172,33,5Ø,136,14Ø,39:REM*2Ø8
43ØØ DATA5Ø,162,Ø,172,39,5Ø,185,184 :REM*24
431Ø DATA42,168,185,57,5Ø,157,49,5Ø:REM*22Ø
432Ø DATA2ØØ,232,224,8,144,244,16Ø,Ø:REM*76
433Ø DATA173,32,5Ø,141,37,5Ø,185,49:REM*214
434Ø DATA5Ø,77,4Ø,5Ø,141,45,5Ø,174 :REM*152
435Ø DATA41,5Ø,24Ø,9,32,236,42,32  :REM*136
436Ø DATA161,48,77,45,5Ø,32,236,42 :REM*211
437Ø DATA32,172,48,24,165,25Ø,1Ø5,8Ø
                                    :REM*183
438Ø DATA133,25Ø,144,2,23Ø,251,173,45
                                    :REM*171
439Ø DATA5Ø,2Ø6,37,5Ø,2Ø8,214,2ØØ,192
                                    :REM*121
44ØØ DATA8,2Ø8,197,174,42,5Ø,24Ø,2Ø :REM*85
441Ø DATA56,165,25Ø,233,16Ø,133,25Ø,176
                                    :REM*29
442Ø DATA2,198,251,32,236,42,173,42 :REM*19
443Ø DATA5Ø,32,172,48,24,173,29,5Ø :REM*171
444Ø DATA1Ø5,8,141,29,5Ø,144,3,238 :REM*133
445Ø DATA3Ø,5Ø,32,127,42,2Ø6,39,5Ø  :REM*55
446Ø DATA238,38,5Ø,173,38,5Ø,2Ø5,33:REM*161
447Ø DATA5Ø,24Ø,3,76,57,41,76,57    :REM*223
448Ø DATA4Ø,162,Ø,2Ø1,32,144,25,2Ø1 :REM*25
449Ø DATA64,176,1,96,2Ø1,128,176,4 :REM*211
45ØØ DATA56,233,64,96,2Ø1,16Ø,144,8  :REM*5
451Ø DATA2Ø1,192,144,244,56,233,128,96
                                    :REM*65
452Ø DATA17Ø,169,Ø,224,21,2Ø8,6,169:REM*147
453Ø DATA255,141,42,5Ø,96,224,14,2Ø8:REM*71
454Ø DATA4,141,42,5Ø,96,224,5,2Ø8    :REM*83
455Ø DATA4,141,41,5Ø,96,224,24,2Ø8   :REM*59
456Ø DATA4,142,41,5Ø,96,224,18,2Ø8 :REM*137
457Ø DATA6,169,255,141,4Ø,5Ø,96,224 :REM*61
458Ø DATA146,2Ø8,4,141,4Ø,5Ø,96,224 :REM*33
459Ø DATA17,2Ø8,12,24,173,31,5Ø,1Ø5 :REM*55
46ØØ DATA8,141,31,5Ø,24,144,55,224   :REM*61
461Ø DATA145,2Ø8,12,56,173,31,5Ø,233
                                    :REM*17Ø
462Ø DATA8,141,31,5Ø,24,144,39,224 :REM*21Ø
463Ø DATA157,2Ø8,17,56,173,29,5Ø,233:REM*64
464Ø DATA8,141,29,5Ø,176,24,2Ø6,3Ø :REM*148
465Ø DATA5Ø,24,144,18,224,29,2Ø8,14:REM*136
466Ø DATA24,173,29,5Ø,1Ø5,8,141,29 :REM*148
467Ø DATA5Ø,144,3,238,3Ø,5Ø,32,127 :REM*2Ø6
468Ø DATA42,96,16Ø,Ø,162,8,32,28    :REM*234
```


→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 232 on Reader Service card.

DISKS 69c

Foolish to pay more.
Dangerous to pay less.

- QUALITY MEDIA
- LIFETIME REPLACEMENT GUARANTEE
- HUB RINGS
- TYVEC EPS.
- WRITE PROTECTS

	1–50	51+
5.25" SSDD	.79	.69
5.25" DSDD	.89	.79
PC FORMATTED	1.09	.99
AT 1.2MB/3.5 1D (Mac)	1.99	CALL

BLACKSHIP COMPUTER SUPPLY
P.O. Box 883362
San Francisco, CA 94188
In California 415-550-0512
USA orders **800-431-6249**
In Canada 403-428-6229

Add $3.00 shipping and handling per 100 Diskettes.
COD add $1.95. (CA residents add 6.5% sales tax)
VISA MC COD

Circle 200 on Reader Service card.

RPM

REPLACEMENT POWER SUPPLY

for Commodore C64 and VIC-20's

SPECIAL FEATURES

- Serviceable -- not disposable!
- Surge Protected!
- Spike Protected!
- TWO fused circuits (computer and accessory)
- Power Indicator Light
- 4 extra 110-120 volt outlets for peripherals
- 2 year warranty
- Master ON-OFF Switch
- Long Cords

Retails at $69.95

AVAILABLE TO DISTRIBUTORS ONLY THROUGH:

R.P.M. Concepts, Ltd.
60 E. Main St., Alliance, Ohio 44601
Call 800-821-1297 IN OHIO 800-821-8555
VISA - MASTERCARD - C.O.D.

RPM

Circle 136 on Reader Service card.

WE WON'T PAY YOUR TAXES!

But **TAX MASTER** will help you compute them more QUICKLY and EASILY. Be the Master of your Income Taxes with **TAX MASTER**, now available for your 1985 Federal Income Taxes for the C64/C128 with single, twin, or dual disk drive and optional printer.

- **FORMS** 1040, 4562, & Schedules A,B,C,D,E, and F.
- **PERFORMS** all arithmetic **CORRECTLY**.
- **EASY CHANGE** of any entry, with easy **RECALCULATION** of the entire form.
- **TRANSFERS** numbers between forms.
- **CALCULATES** your taxes and **REFUND**. Tax tables are included.
- **SAVES** all your data to disk for future changes.
- **PRINTS** the data from each form.
- **DISCOUNT** coupon toward the purchase of next year's updated program.

TAX MASTER ..... **(DISK ONLY)** ..... **ONLY $28.00**

OTHER MASTER SOFTWARE ITEMS

RESET MASTER reset switch with 2 serial ports	**$24.95**
HELP MASTER Instant On-Line BASIC Help Screens	**$24.95**
MODEM MASTER user port extender **$24.95**; w/reset	**$29.95**
Y-NOT? 6-foot serial Y cable, 1 male, 2 female	**$10.00**
C128 80 col monochrome cable for non-RGB monitor	**$ 9.00**
Surge Protector 6 outlet power strip 6-foot cord	**$21.00**
Disk Notcher — lets you use both sides of disk	**$ 8.00**

Send check or money order to:

MASTER SOFTWARE

6 Hillery Ct. Randallstown, MD 21133 (301) 922-2962

All prices in US Dollars. Surface shipping in US & Canada is included. Foreign orders add $5. Canadian orders use Canadian POSTAL money order. Maryland residents add 5% tax.

Circle 81 on Reader Service card.

BACKUP PROTECTED SOFTWARE *FAST* with COPY II 64/128™

From the team who brought you **COPY II PLUS** (Apple), **COPY II PC** (IBM) and **COPY II MAC** (Macintosh) comes a revolutionary new copy program for the Commodore 64 and 128 computers.

- Copies most* protected software — *automatically.*
- Copies even protected disks in just 2 minutes (single drive).
- Copies even protected disks in just 1 minute (dual drive).
- Maximum of four disk swaps on a single drive.
- Includes fast loader, 12 second format.

Requires a Commodore 64 or 128 computer with one or two 1541 or 1571 drives.

CENTRAL POINT Software, Inc.
9700 SW Capitol Hwy.,#100
Portland, OR 97219

503/244-5782
M-F, 8-5:30, W. Coast Time
CHECK, COD WELCOME
(Prepayment Required)

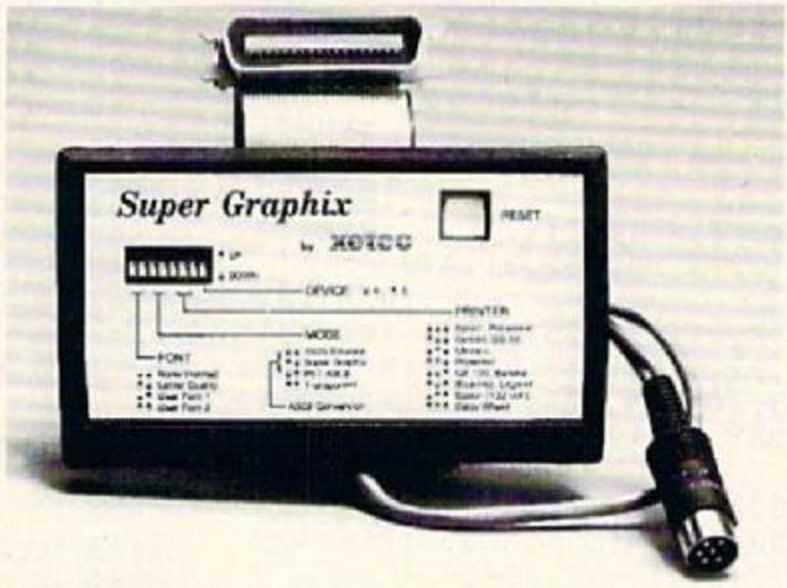
$39.95
plus $3 s/h ($8 overseas)

*We update Copy II 64 regularly to handle new protections; you as a registered owner may update at any time at a reduced price.

This product is provided for the purpose of enabling you to make archival copies only.

Circle 96 on Reader Service card.

Super Graphix



You Asked For It . . . Here It Is!!!

GRAPHICS and FONTS plus an 8K BUFFER for the ultimate in performance and speed. The XETEC Super Graphix interface for Commodore Computers now offers a new high in technology with these features:

- 8K Buffer Standard
- 10 Printing Modes
- 3 Internal Screen Dumps
- Extensive Command Channel
- Reset Button to Halt Printing from Buffer
- Switch Settings on Label for Quick Reference
- Correspondence Quality Font Built-In
- Capable of Storing 2 Additional Fonts
- Correct Graphics/Text Aspect Ratio for all Major Printers
- 8 Active Switches with Changes Constantly Monitored
- Internal Fonts Support Super-script, Sub-script, Underlining, Bold-face and Choice of 9 Pitches

Suggested list $99.95 • ***Includes Lifetime Warranty***

XETEC, Inc. / 3010 Arnold Rd. / Salina, KS 67401 / 913-827-0685

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
469Ø DATA49,138,24,1Ø9,27,5Ø,133,174:REM*56
47ØØ DATA152,1Ø9,28,5Ø,133,175,96,173
                                        :REM*122
471Ø DATA29,5Ø,133,252,173,3Ø,5Ø,133
                                        :REM*18Ø
472Ø DATA253,173,31,5Ø,133,254,32,191
                                        :REM*16
473Ø DATA48,173,26,5Ø,2Ø1,79,144,31:REM*176
474Ø DATA162,Ø,172,32,5Ø,24,185,184 :REM*36
475Ø DATA42,1Ø9,31,5Ø,141,31,5Ø,2Ø1:REM*118
476Ø DATA198,144,3,142,31,5Ø,142,29:REM*156
477Ø DATA5Ø,142,3Ø,5Ø,76,127,42,96 :REM*236
478Ø DATAØ,8,16,24,32,4Ø,48,56      :REM*216
479Ø DATA64,72,8Ø,88,96,1Ø4,112,12Ø:REM*146
48ØØ DATA132,8,134,7,133,6,8,1Ø4    :REM*86
481Ø DATA133,5,169,15,16Ø,135,162,123
                                        :REM*188
482Ø DATA133,2,132,3,134,4,32,11Ø     :REM*2
483Ø DATA255,165,5,72,165,6,166,7     :REM*2
484Ø DATA164,8,4Ø,96,72,14Ø,46,5Ø    :REM*86
485Ø DATA162,18,165,251,164,25Ø,32,145
                                        :REM*86
486Ø DATA48,172,46,5Ø,1Ø4,96,142,48:REM*118
487Ø DATA5Ø,169,174,174,43,5Ø,32,116
                                        :REM*177
488Ø DATA255,174,48,5Ø,96,32,128,3 :REM*165
489Ø DATA32,9,136,142,19,5Ø,32,15  :REM*193
49ØØ DATA136,166,22,164,23,142,16,5Ø
                                        :REM*131
491Ø DATA134,166,14Ø,17,5Ø,132,167,2ØØ
                                        :REM*1
492Ø DATA2ØØ,2ØØ,2ØØ,14Ø,18,5Ø,173,Ø
                                        :REM*165
493Ø DATA255,41,254,141,Ø,255,162,18
                                        :REM*255
494Ø DATA173,19,5Ø,2Ø8,11,169,32,32:REM*133
495Ø DATA129,43,232,169,Ø,76,8Ø,43 :REM*123
496Ø DATA169,48,32,129,43,232,169,Ø:REM*145
497Ø DATA32,129,43,16Ø,Ø,162,Ø,169 :REM*131
498Ø DATA166,32,116,255,32,127,43,2ØØ
                                        :REM*2Ø3
499Ø DATA192,8,144,241,169,Ø,32,127:REM*2Ø3
5ØØØ DATA43,136,2Ø8,25Ø,165,166,24,1Ø5
                                        :REM*185
5Ø1Ø DATA8,133,166,144,224,23Ø,167,165
                                        :REM*1
5Ø2Ø DATA167,2Ø5,18,5Ø,2Ø8,215,96,162
                                        :REM*57
5Ø3Ø DATA31,142,Ø,214,44,Ø,214,16    :REM*29
5Ø4Ø DATA251,141,1,214,96,162,31,142
                                        :REM*1Ø9
5Ø5Ø DATAØ,214,44,Ø,214,16,251,173   :REM*51
5Ø6Ø DATA1,214,96,32,128,3,32,135   :REM*245
5Ø7Ø DATA49,24,173,2ØØ,49,1Ø5,7,133:REM*251
5Ø8Ø DATA252,173,2Ø1,49,1Ø5,Ø,133,253
                                        :REM*41
5Ø9Ø DATA32,255,48,173,225,49,141,9:REM*223
51ØØ DATA5Ø,173,2Ø2,49,141,11,5Ø,32:REM*137
511Ø DATA161,49,173,Ø,255,41,254,141
                                        :REM*225
512Ø DATAØ,255,173,2ØØ,49,133,252,173
                                        :REM*134
513Ø DATA2Ø1,49,133,253,173,2Ø2,49,133
                                        :REM*184
514Ø DATA254,32,191,48,165,25Ø,141,12
                                        :REM*254
515Ø DATA5Ø,165,251,141,13,5Ø,173,196
                                        :REM*23Ø
516Ø DATA49,133,252,173,197,49,133,253
                                        :REM*3Ø
517Ø DATA173,198,49,133,254,32,191,48
                                        :REM*88
518Ø DATA165,25Ø,141,14,5Ø,165,251,141
                                        :REM*1ØØ
519Ø DATA15,5Ø,162,18,173,13,5Ø,172 :REM*78
52ØØ DATA12,5Ø,32,145,48,162,24,142:REM*138
521Ø DATAØ,214,173,1,214,9,128,142  :REM*18
522Ø DATAØ,214,141,1,214,162,32,173:REM*2Ø4
523Ø DATA15,5Ø,172,14,5Ø,32,145,48 :REM*114
524Ø DATA162,3Ø,173,9,5Ø,142,Ø,214  :REM*12
525Ø DATA141,1,214,32,185,48,24,173:REM*132
526Ø DATA12,5Ø,1Ø5,8Ø,141,12,5Ø,144 :REM*3Ø
527Ø DATA3,238,13,5Ø,24,173,14,5Ø  :REM*254
528Ø DATA1Ø5,8Ø,141,14,5Ø,144,3,238:REM*244
529Ø DATA15,5Ø,2Ø6,11,5Ø,2Ø8,171,96:REM*226
53ØØ DATA32,128,3,169,Ø,141,2Ø,5Ø  :REM*254
531Ø DATA141,21,5Ø,32,15,136,24,165:REM*24Ø
532Ø DATA22,1Ø5,Ø,141,22,5Ø,166,48  :REM*56
533Ø DATA2Ø2,2Ø2,2Ø2,2Ø2,228,23,144,51
                                        :REM*6
534Ø DATA2Ø2,228,23,176,6,165,22,2Ø1
                                        :REM*142
535Ø DATA252,176,4Ø,24,165,23,1Ø5,4  :REM*4
536Ø DATA141,23,5Ø,32,135,49,24,173:REM*118
537Ø DATA2ØØ,49,1Ø5,7,133,252,173,2Ø1
                                        :REM*234
538Ø DATA49,1Ø5,Ø,133,253,32,255,48 :REM*51
539Ø DATA173,225,49,141,9,5Ø,141,1Ø:REM*2Ø3
54ØØ DATA5Ø,2Ø8,3,76,67,33,173,2Ø2  :REM*91
541Ø DATA49,141,11,5Ø,168,24Ø,244,24
                                        :REM*235
542Ø DATA173,2Ø,5Ø,1Ø9,9,5Ø,141,2Ø   :REM*3
543Ø DATA5Ø,144,3,238,21,5Ø,136,2Ø8 :REM*21
544Ø DATA238,24,173,23,5Ø,1Ø9,21,5Ø:REM*1Ø5
545Ø DATA197,48,176,215,173,Ø,255,41
                                        :REM*215
546Ø DATA254,141,Ø,255,173,196,49,133
                                        :REM*181
547Ø DATA252,173,197,49,133,253,173,198
                                        :REM*125
548Ø DATA49,133,254,32,191,48,165,25Ø
                                        :REM*237
549Ø DATA141,14,5Ø,165,251,141,15,5Ø
                                        :REM*185
55ØØ DATA173,22,5Ø,133,25Ø,173,23,5Ø
                                        :REM*165
551Ø DATA133,251,16Ø,1,173,11,5Ø,32 :REM*37
552Ø DATA95,45,136,173,9,5Ø,32,95   :REM*53
553Ø DATA45,24,165,25Ø,1Ø5,2,133,25Ø:REM*55
554Ø DATA144,2,23Ø,251,162,18,173,15
                                        :REM*153
555Ø DATA5Ø,172,14,5Ø,32,145,48,32  :REM*55
556Ø DATA161,48,16Ø,Ø,32,95,45,23Ø  :REM*57
557Ø DATA25Ø,2Ø8,2,23Ø,251,2Ø6,9,5Ø:REM*223
558Ø DATA2Ø8,237,173,1Ø,5Ø,141,9,5Ø:REM*117
559Ø DATA24,173,14,5Ø,1Ø5,8Ø,141,14:REM*195
56ØØ DATA5Ø,144,3,238,15,5Ø,2Ø6,11    :REM*5
561Ø DATA5Ø,2Ø8,2Ø1,56,165,251,233,4
                                        :REM*255
562Ø DATA133,251,165,25Ø,133,25Ø,96,162
                                        :REM*135
563Ø DATA25Ø,142,185,2,162,1,32,119:REM*197
564Ø DATA255,96,32,128,3,32,15,136  :REM*84
565Ø DATA24,165,22,1Ø5,Ø,141,22,5Ø :REM*166
566Ø DATA166,48,2Ø2,2Ø2,2Ø2,2Ø2,228,23
                                        :REM*12Ø
567Ø DATA176,3,76,67,33,24,165,23  :REM*218
568Ø DATA1Ø5,4,141,23,5Ø,32,161,49 :REM*15Ø
569Ø DATA173,2ØØ,49,133,252,173,2Ø1,49
                                        :REM*116
57ØØ DATA133,253,173,2Ø2,49,133,254,32
                                        :REM*28
571Ø DATA191,48,165,25Ø,141,14,5Ø,165
                                        :REM*176
572Ø DATA251,141,15,5Ø,173,22,5Ø,133:REM*84
573Ø DATA25Ø,173,23,5Ø,133,251,16Ø,1
                                        :REM*2ØØ
574Ø DATA32,16,46,141,11,5Ø,136,32  :REM*8Ø
575Ø DATA16,46,141,9,5Ø,173,Ø,255    :REM*2
576Ø DATA41,254,141,Ø,255,24,165,25Ø:REM*16
```

→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Sensational Prices!
. . . On Our Most Popular Items!

from microfal® . . .

THE 69¢ DISKETTE!

Are you paying too much for diskettes? Try our first quality, prime, 5¼" diskettes (no rejects, no seconds) at these fantastic sale prices and save, save, SAVE! Disks are packaged in boxes of 50; each box contains 5 shrink-wrapped 10-packs that include diskettes in sleeves, labels, and write-protect tabs.

Each diskette is certified to be 100% error free and comes with a lifetime warranty (if you have a problem, we'll replace the diskette). All diskettes include hub reinforcement rings and write-protect notch.

All diskettes are double density and work in either single or double density drives.

SS, DD Diskettes, Box of 50
32391 **$34.50-69¢ ea.!**

DS, DD Diskettes, Box of 50
32403 **$44.50-89¢ ea.!**

$ LOWEST PRICES IN U.S.A.! $

star MICRONICS

BMC AXIOM INDUS
EPSON CARDCO

We can offer you some of the lowest prices in the country on the most popular printers, monitors and interfaces. Our normal prices are already low, but to make sure you get the best deal you can, we will also meet most competitive prices in this publication when placed on an equal basis (*Remember—we don't charge for use of your credit card, impose excessive shipping fees, or use any other hidden extras to boost the price you pay. Due to the rapid change in prices in the computer industry, we can only meet prices at the time you place your order; we cannot adjust prices on items ordered or shipped on an earlier date.*) Another plus for charge card customers—your charge card is billed at time of shipment only for the items shipped—no early billing, no long wait for the merchandise you already paid for.

COMMODORE				**STAR MICRONICS**	
C-128 Computer	$CALL	**CARDCO**		SG-10	$CALL
1571 Disk Drive	$CALL	G-Wiz Interface	$CALL	SG-10C	$CALL
1902 Monitor	$CALL	S'MORE	$CALL	**EPSON**	
1670 Modem	$CALL			FX-85	$CALL
				FX-185	$CALL

We also carry famous name software. . . Epyx, Broderbund, Muse, CBS, Sierra, Timeworks, Random House, Activision, and more!

★ THE BEST PRICES ★
★ THE BEST SERVICE ★
WHY SHOP ANYWHERE ELSE?

PRINTER PLUS GRAPHICS INTERFACE **$189**

100 cps, Near Letter Quality, parallel interface.
35044 **$189**

POWER and PROTECTION FOR YOUR C-64!

POW'R PAK 64

Pow'r Pak is a replacement power supply (1.5 amp) for the Commodore 64. . . but that's not all! Pow'r Pak also supplies two additional surge protected outlets (120V) for monitor, disk drive, or other peripherals. On/off switch. Fuse protection. Sturdy all-metal casing is ventilated for heat dissipation. Full 1 year warranty.

34910 **$49.95**

COMPUTERFACTS™ from SAMS

Technical Service Data for Your Computer and Peripherals

Sams introduces COMPUTERFACTS™ . . . packets of information that reveal the inner workings of major brand micros, monitors, printers and disk drives. Includes schematic wiring diagrams, parts lists, disassembly instructions, troubleshooting techniques, and other repair data.

33477 Commodore 64 Computer
33513 VIC-20 Computer
33551 Commodore Plus/4 Computer
33481 Commodore 1541 Disk Drive
33496 Commodore 1525 Printer
33508 Commodore C16 Computer
33546 Commodore 1701 Monitor
35950 Gemini 10X Printer
35964 Gemini 15X Printer

All packets $17.95 each

CARTRIDGE EXPANDER

Plus $22.95 *FAST LOAD* OFFER!

Stop wearing out your computer by endless cartridge swapping! The Navarone cartridge expander features 3 cartridge slots. Select any cartridge, or the "off" position if no cartridge is to be used. Reset the computer independently of the power switch. Cartridge slots are vertical for easy access — no blind fumbling behind the computer.

33227 3-slot Cartridge Expander **$22.95**

The cartridge expander is a great companion for the Epyx Fast Load cartridge — you can keep it permanently installed plus have two sides free for other cartridges!

34216 Fast Load Cartridge (Sug. Retail $39.95) **$24.95**

Fast Load Only $22.95 with purchase of cartridge expander!

DUST COVER and "EVERYTHING BOOK" SPECIAL OFFER

Get to know us by ordering this great dust cover for your C-64 or C-128 and our catalog, "The Everything Book for the C-64 and C-128 Home Computers," for $2.95 (no extra shipping and handling charges). Cover is antistatic, translucent 8-gauge vinyl sewn to our exacting standards with reinforced seams. Discover the savings and easy shipping available from TENEX Computer Express!

$2.95

31627 **C-64 Dust Cover and Catalog (R1N)**
38464 **C-128 Dust Cover and Catalog (R1N)**

The Right Interface For All Your Printing Needs!!

PPI with graphics

". . . a sound investment for your Commodore."
RUN, Dec. '85

This high-performance graphics parallel printer interface from DSI for C-64 and VIC-20 emulates a Commodore printer. Comes with cables and user's manual.

33565 **$39.95**

GMI Interface

Built-in buffer provides super high-speed printing for parallel printers. Prints all Commodore characters. Cables and connectors included. From Cardco. Lifetime warranty.

34484 **$CALL**

From Your Friends At
TENEX Computer Express

We gladly accept mail orders!
P.O. Box 6578
South Bend, IN 46660

Questions? Call
219/259-7051

Ad R1N

SHIPPING CHARGES

ORDER AMOUNT	CHARGE
less than $20.00	$3.75
$20.00–$39.99	4.75
$40.00–$74.99	5.75
$75.00–$149.99	6.75
$150.00–$299.99	7.75
$300 & up	8.75

MasterCard VISA

NO EXTRA FEE FOR CHARGES

WE VERIFY CHARGE CARD ADDRESSES.

ORDER TOLL FREE
1-800-348-2778

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
5770 DATA105,2,133,250,144,2,230,251
                                        :REM*232
5780 DATA162,18,173,15,50,172,14,50:REM*138
5790 DATA32,145,48,160,0,32,16,46  :REM*110
5800 DATA32,172,48,230,250,208,2,230:REM*34
5810 DATA251,206,9,50,208,237,173,10
                                        :REM*210
5820 DATA50,141,9,50,24,173,14,50   :REM*74
5830 DATA105,80,141,14,50,144,3,238 :REM*28
5840 DATA15,50,206,11,50,208,201,96:REM*132
5850 DATA169,250,162,1,32,116,255,96:REM*30
5860 DATA32,128,3,32,9,136,142,48   :REM*34
5870 DATA50,160,0,140,241,49,140,242:REM*68
5880 DATA49,200,32,176,47,32,201,255
                                        :REM*116
5890 DATA173,0,255,41,254,141,0,255:REM*127
5900 DATA162,18,169,0,168,32,145,48:REM*189
5910 DATA173,48,50,240,3,76,146,46  :REM*53
5920 DATA32,161,48,32,210,255,238,241
                                        :REM*139
5930 DATA49,208,245,238,242,49,173,242
                                        :REM*43
5940 DATA49,201,64,144,235,76,123,47:REM*13
5950 DATA32,128,3,32,9,136,142,48   :REM*125
5960 DATA50,160,0,32,176,47,32,198  :REM*219
5970 DATA255,173,0,255,41,254,141,0:REM*211
5980 DATA255,162,18,169,0,168,32,145
                                        :REM*101
5990 DATA48,173,48,50,240,3,76,47   :REM*151
6000 DATA47,32,113,47,32,172,48,24  :REM*219
6010 DATA144,247,160,0,140,236,49,140
                                        :REM*211
6020 DATA238,49,32,161,48,141,239,49
                                        :REM*183
6030 DATA169,1,141,237,49,32,161,48 :REM*43
6040 DATA141,221,49,238,241,49,208,3
                                        :REM*117
6050 DATA238,242,49,173,242,49,201,64
                                        :REM*97
6060 DATA144,3,76,123,47,173,221,49 :REM*49
6070 DATA205,239,49,208,8,238,237,49
                                        :REM*181
6080 DATA208,219,206,237,49,173,237,49
                                         :REM*7
6090 DATA201,5,144,40,173,240,49,208:REM*73
6100 DATA14,169,1,141,240,49,32,131 :REM*51
6110 DATA47,141,236,49,32,210,255,173
                                        :REM*69
6120 DATA237,49,32,210,255,173,239,49
                                        :REM*85
6130 DATA32,210,255,173,221,49,141,239
                                        :REM*189
6140 DATA49,76,160,46,173,240,49,240
                                        :REM*103
6150 DATA5,169,0,141,240,49,173,239:REM*168
6160 DATA49,174,237,49,172,238,49,173
                                        :REM*248
6170 DATA239,49,153,0,32,238,238,49:REM*246
6180 DATA208,9,206,238,49,32,131,47:REM*214
6190 DATA76,12,47,202,208,230,173,221:REM*0
6200 DATA49,141,239,49,76,160,46,169
                                        :REM*102
6210 DATA1,141,240,49,32,113,47,141:REM*138
6220 DATA237,49,240,23,172,240,49,240
                                        :REM*170
6230 DATA34,32,113,47,141,221,49,172 :REM*4
6240 DATA237,49,32,172,48,136,208,250
                                        :REM*182
6250 DATA76,52,47,173,240,49,240,215:REM*40
6260 DATA169,0,141,240,49,32,113,47 :REM*64
6270 DATA141,237,49,32,113,47,32,172:REM*86
6280 DATA48,206,237,49,208,245,76,52
                                        :REM*194
6290 DATA47,164,144,208,4,32,207,255:REM*88
6300 DATA96,104,104,169,2,32,195,255
                                        :REM*152
6310 DATA76,204,255,142,48,50,173,236
                                        :REM*222
6320 DATA49,208,8,160,1,140,236,49 :REM*204
6330 DATA32,210,255,173,238,49,32,210
                                        :REM*184
6340 DATA255,160,0,185,0,32,32,210 :REM*174
6350 DATA255,200,204,238,49,208,244,169
                                         :REM*66
6360 DATA0,141,238,49,174,48,50,96 :REM*186
6370 DATA32,204,255,169,2,162,8,32  :REM*86
6380 DATA186,255,32,54,146,162,1,32:REM*164
6390 DATA104,255,32,192,255,162,2,142
                                        :REM*234
6400 DATA240,49,96,32,128,3,160,5  :REM*113
6410 DATA162,0,142,44,50,169,14,141:REM*235
6420 DATA43,50,169,0,141,27,50,169   :REM*1
6430 DATA208,141,28,50,189,47,48,141
                                        :REM*123
6440 DATA29,50,232,189,47,48,141,30:REM*135
6450 DATA50,232,189,47,48,141,31,50 :REM*77
6460 DATA232,189,47,48,141,32,50,232:REM*55
6470 DATA189,47,48,141,33,50,232,189:REM*55
6480 DATA47,48,141,34,50,232,189,47:REM*215
6490 DATA48,133,158,232,189,47,48,133
                                        :REM*45
6500 DATA159,142,45,48,140,46,48,32  :REM*1
6510 DATA44,40,174,45,48,172,46,48 :REM*189
6520 DATA232,136,208,184,96,0,0,80 :REM*241
6530 DATA0,0,8,10,6,87,48,128       :REM*157
6540 DATA0,70,4,6,8,93,48,0         :REM*145
6550 DATA1,118,1,2,8,101,48,64      :REM*107
6560 DATA0,140,5,4,16,109,48,240    :REM*169
6570 DATA0,185,1,1,20,125,48,87      :REM*77
6580 DATA65,76,82,85,83,83,79,70     :REM*19
6590 DATA84,87,65,82,69,80,82,69    :REM*227
6600 DATA83,69,78,84,83,67,49,50      :REM*3
6610 DATA56,32,85,76,84,82,65,32     :REM*41
6620 DATA72,73,82,69,83,40,67,41     :REM*41
6630 DATA49,57,56,53,32,82,85,78    :REM*181
6640 DATA32,77,65,71,65,90,73,78    :REM*123
6650 DATA69,142,0,214,141,1,214,232:REM*253
6660 DATA142,0,214,140,1,214,76,185:REM*226
6670 DATA48,169,31,141,0,214,173,1 :REM*164
6680 DATA214,76,185,48,72,169,31,141
                                        :REM*104
6690 DATA0,214,104,141,1,214,76,185 :REM*50
6700 DATA48,44,0,214,16,251,96,32  :REM*146
6710 DATA255,48,169,0,133,251,165,254
                                        :REM*240
6720 DATA10,38,251,10,38,251,10,38 :REM*118
6730 DATA251,10,38,251,141,227,49,164:REM*0
6740 DATA251,140,228,49,10,38,251,10:REM*84
6750 DATA38,251,24,109,227,49,133,250
                                        :REM*46
6760 DATA173,228,49,101,251,133,251,24
                                        :REM*70
6770 DATA165,250,109,225,49,133,250,165
                                        :REM*138
6780 DATA251,109,226,49,133,251,96,165
                                        :REM*72
6790 DATA252,141,225,49,165,253,74,110
                                        :REM*164
6800 DATA225,49,74,110,225,49,74,110:REM*56
6810 DATA225,49,141,226,49,173,225,49
                                        :REM*140
6820 DATA141,26,50,96,141,131,49,142:REM*94
6830 DATA133,49,140,132,49,162,0,142
                                        :REM*140
6840 DATA129,49,142,130,49,41,1,240 :REM*40
6850 DATA9,140,130,49,174,133,49,142
                                        :REM*226
6860 DATA129,49,169,128,141,134,49,45
                                        :REM*170
6870 DATA131,49,240,42,174,133,49,172
                                        :REM*112
```

→

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

Circle 105 on Reader Service card.

http://www.oldgamesitalia.net/

RAVE REVIEWS

RUN Magazine says, ". . . rugged design . . . ease of use . . . make it everyone's favorite . . ."

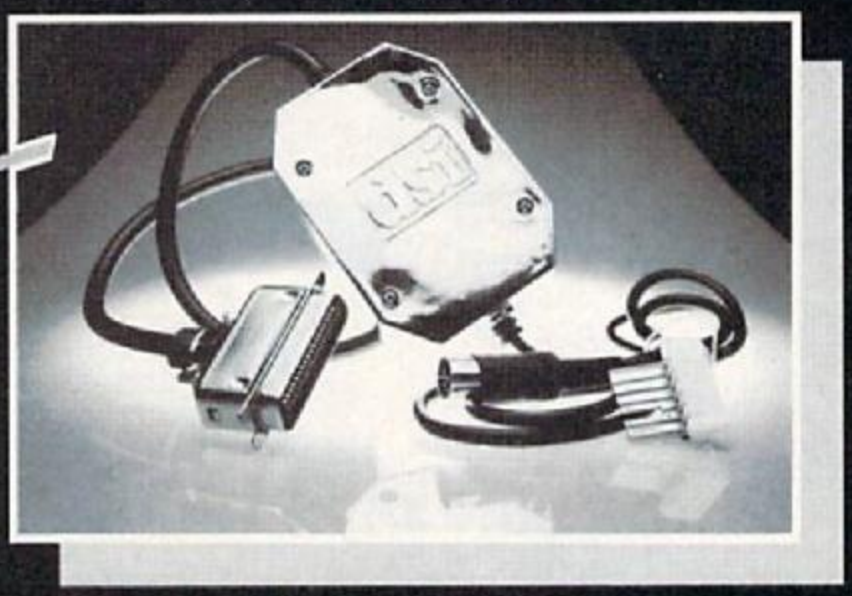
". . . outstanding 1525 emulation cannot be overemphasized."

" . . . 1525 emulation is so near perfect . . . you'll be hard pressed to find software designed to work with the Commodore . . . that will not work . . ."

" . . . it is a sophisticated interface . . . posesses an above average level of quality . . ." RUN Dec. 1985 issue

PPI™ with graphics buffer

PARALLEL PRINTER INTERFACE



$49.95
(suggested retail)

FOR USE WITH THE COMMODORE Vic 20, C64 and 128 PC

IMPORTANT FEATURES that may not be found on other interfaces:

- High Speed Graphics Buffer.
- Works properly with all Commodore compatible software.
- Transparent Mode Lock Controls.
- Total Emulation of Commodore's Graphic, Character and Command Set.
- True Commodore Graphics.
- Combining of Emulation and Transparent Modes.
- No Confusing DIP switches.
- 15 page easy to follow Users Manual.
- FCC Approved.

PRINTERS

Smith Corona Fast Text 80
Smith Corona DP series
Smith Corona 200*
Smith Corona 300*
Smith Corona 400*
Royal 600*
Royal 610*
Riteman
Radix
Star Gemini X & SG series
MPI SX Printer*
MPI X Printer*
Panasonic KXP
Inforunner
Star Delta
Blue Chip
Citizen
BMC
Mannesmann Tally MT160
Olympia Compact NP
Brother CE-50*
Brother CE-58*
Brother DM-40
Brother DX-5
Fujitsu
Epson

* Special interface or adapter cable required. Contact DSI.

The PPI works with all Centronics compatible parallel printers that utilize standard ASCII characters and command sets in the transparent mode.

DIRECTOR
The DIRECTOR is a surge, spike, RFI, and EMI interference suppressed 5 outlet power control center for computers and penpherals.

DATA SWITCH
Six DATA SWITCH models allow port expansion and sharing of computer and penpherals.

MESSENGER MODEM
The MESSENGER is an auto answer/dial modem with complete telecom software for use with Commodore C64 and 128 PC.

COMPUTER DISKETTE NOTCHER
Converts any single sided diskette to a double sided diskette.

RGB CABLE ASSEMBLIES
RBG cable assemblies that connect the Commodore 128 PC and Amiga to Amdek, Sakata, Princeton Graphics, Taxan, Magnavox, Teknika, Sharp, Panasonic, NEC, and Sony RGB monitors.

Distributor and dealer programs available. Call 316-264-6118 for immediate information.

dsi
717 SOUTH EMPORIA
WICHITA, KANSAS 67211-2307
(316) 264-6118
Telex No. 650-193-4977

ajor OEM and private label manufacturer. Call for complete information and quo

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 1 continued.

```
6880 DATA132,49,142,127,49,140,128,49
                                        :REM*32
6890 DATA14,127,49,46,128,49,74,201:REM*184
6900 DATA1,208,245,24,173,127,49,109:REM*36
6910 DATA129,49,141,129,49,173,128,49
                                        :REM*68
6920 DATA109,130,49,141,130,49,78,134
                                        :REM*113
6930 DATA49,173,134,49,201,1,208,199
                                        :REM*187
6940 DATA174,129,49,172,130,49,96,0 :REM*93
6950 DATA0,0,0,0,0,0,0,32           :REM*193
6960 DATA15,136,165,22,141,196,49,165
                                        :REM*99
6970 DATA23,141,197,49,32,15,136,165
                                        :REM*207
6980 DATA22,141,198,49,165,23,141,199
                                        :REM*31
6990 DATA49,32,15,136,165,22,141,200
                                        :REM*191
7000 DATA49,165,23,141,201,49,32,15:REM*207
7010 DATA136,165,22,141,202,49,165,23
                                        :REM*177
7020 DATA141,203,49,96,1,2,4,8       :REM*91
7030 DATA16,32,64,128,0,0,0,0       :REM*129
7040 DATA0,0,0,0,0,0,0,0             :REM*77
7050 DATA0,0,0,0,0,0,0,0             :REM*87
7060 DATA0,0,0,0,0,0,0,0             :REM*97
7070 DATA0,0,0,0,0,0,0,0            :REM*107
7080 DATA0,64,0,0,0,0,0,0           :REM*157
7090 DATA0,0,0,0,0,0,0,0            :REM*127
7100 DATA0,0,0,0,0,0,0,0            :REM*137
7110 DATA0,0,0,0,0,0,0,0            :REM*147
7120 DATA0,0,0,0,0,0,0,0            :REM*157
7130 DATA0,0,0,0,0,0,0,0            :REM*167
7140 DATA0,0,0,0,0,0,0,0            :REM*177
7150 DATA0,0,0,0,0,0,0,0            :REM*187
7160 DATA0,0,0,0,0,0,0,0            :REM*197
7170 DATA0,0,0,0,0,0,0,0            :REM*208
7180 DATA0,0,0,0,0,0,0,0            :REM*218
7190 DATA0,0,0,0,0,0,0,0            :REM*228
7200 DATA0,0,0,0,0,0,0,0            :REM*238
7210 DATA0,0,0,0,0,0,0,0            :REM*248
7220 DATA0,0,0,0,0,0,0,0              :REM*2
7230 DATA0,0,0,0,0,0,0,0             :REM*12
7240 DATA0,0,0,0,0,0,0,0             :REM*22
7250 DATA0,0,0,0,0,0,0,0             :REM*32
7260 DATA0,0,0,0,0,0,0,0             :REM*42
7270 DATA0,0,0,0,0,0,0,0             :REM*52
7280 DATA0,0,0,0,0,0,0,0             :REM*62
7290 DATA0,0,0,0,0,0,0,0             :REM*72
7300 DATA0,0,0,0,0,0,0,0             :REM*82
7310 DATA0,0,0,0,0,0,0,0             :REM*92
7320 DATA0,0,0,0,0,0,0,0            :REM*102
7330 DATA0,0,0,0,0,0,0,0            :REM*112
7340 DATA0,32,128,3,96,0,0,0        :REM*164
7350 DATA0                           :REM*98
```

Listing 2. *Ultra Hi-Res boot program.*

```
10 GRAPHIC1,1:GRAPHIC5: REM SET UP 10K BUFF
   ER IN BANK 0 FOR ML                  :REM*76
20 POKE47,0:POKE48,68:CLR: REM SET UP 16K B
   UFFER IN BANK 1 FOR @STASH            :REM*6
30 BLOAD"ULTRA HIRES",B0,P7168: REM LOAD MA
   CHINE LANGUAGE                      :REM*104
40 SYS8448: REM ACTIVATE C128 ULTRA HIRES
                                       :REM*100
50 PRINT"C128 ULTRA HIRES IS NOW ACTIVATED.
   "                                   :REM*218
60 PRINT"YOU HAVE 16K SET ASIDE FOR GRAPHIC
   "                                   :REM*170
70 PRINT"STORAGE. MORE CAN BE GOTTEN BY"
                                       :REM*210
80 PRINT"INCREASING THE AMOUNT POKED INTO"
                                       :REM*184
90 PRINT"REGISTER 48 IN LINE 20. EACH NUMBE
   R"                                  :REM*146
100 PRINT"OVER 68 WILL INCREASE THE BUFFER"
                                       :REM*116
110 PRINT"BY 256 BYTES. TO GAIN A 32K BUFFE
    R"                                  :REM*16
120 PRINT"CHANGE THE 68 TO 132."    :REM*174
130 PRINT"YOU CURRENTLY HAVE ";FRE(0);" BYT
    ES"                                 :REM*62
140 PRINT"AVAILABLE IN BANK 0 FOR PROGRAMS"
                                       :REM*144
150 PRINT"AND ";FRE(1);" IN BANK 1 FOR"
                                        :REM*82
160 PRINT"VARIABLES."                  :REM*132
```

Listing 3. *Program Setup.*

```
10 REM BASIC PROGRAM SETUP             :REM*74
20 FAST: REM ENABLE 2 MH MODE        :REM*224
30 POKE47,0:POKE48,68:CLR: REM SET UP 16K B
   UFFER FOR @STASH                    :REM*148
40 @GRAPHIC,0,2: REM GOTO ULTRA HIRES SCREE
   N (640 X 200) AND SET COLORS BG,FG
                                       :REM*78
50 @CLR,0: REM CLEAR ULTRA HIRES SCREEN
                                       :REM*216
60 TRAP 10010:REM SET UP SYNTAX ERROR TRAP
   TO RETURN TO TEXT MODE AND LIST ERROR
                                       :REM*174
70 :                                    :REM*46
80 REM PROGRAM BEGINS HERE              :REM*78
90 :                                    :REM*66
10000 REM GOTO TEXT MODE, PRINT STATUS AND
      END PROGRAM                       :REM*75
10010 @TEXT:HELP:END                   :REM*217
```

Listing 4. *Hi-res text demo program.*

```
10 REM TEXT ON ULTRA HIRES SCREEN DEMO
                                        :REM*88
20 FAST: REM ENABLE 2 MH MODE        :REM*224
30 POKE47,0:POKE48,68:CLR: REM SET UP 16K B
   UFFER FOR @STASH                    :REM*148
40 @GRAPHIC,0,2: REM GOTO ULTRA HIRES SCREE
   N (640 X 200) AND SET COLORS BG,FG
                                       :REM*78
50 @CLR,0: REM CLEAR ULTRA HIRES SCREEN
                                       :REM*216
60 TRAP 10010:REM SET UP SYNTAX ERROR TRAP
   TO RETURN TO TEXT MODE AND LIST ERROR
                                       :REM*174
70 :                                    :REM*46
80 REM PROGRAM BEGINS HERE              :REM*78
90 :                                    :REM*66
100 @CHAR,7168,0,0,1,0,"{SHFT T}HIS IS A DE
    MO OF 160 CHARACTERS PER LINE. {SHFT Y}
    OU WILL NOTICE THAT IT IS STILL POSSIBL
    E TO READ THEM ON THIS 1702 COMPOSITE M
    ONITOR."                           :REM*134
```

→

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

MUST LIQUIDATE At Far Below Dealer Cost!
TOTAL Personal Computer System

Factory Reconditioned with Factory Warranty!

Carries easily as a suitcase!

Sorry, we can't print the famous brand name. But we can tell you if you phone us Toll-Free: 1-800-328-0609.

Famous U.S. brand 64K computer with built-in disk drive, COLOR monitor, ROM cartridge port! PLUS printer, software!

THE COMPUTER

Snap-on computer keyboard! 64K RAM, 20K ROM. Full-size typewriter keyboard. Upper and lower case letters, numerals, symbols, reverse characters. 2 cursor control keys, 4 function keys, programmable to 8. Music synthesizer with 3 independent voices, each with 9 octave range. Input/output ports accommodate . . . user, serial, ROM cartridge, joysticks, external monitor, phone modem.

Built-in disk drive! Intelligent high speed unit with 5¼" floppy disk recorder. 170K formatted data storage; 35 tracks. 16K ROM. Uses single sided, single density disk. Serial interface. Second serial port to chain second drive or printer.

Built-in color monitor! Displays 40 columns x 25 lines of text on 5" screen. High resolution. 320 x 200 pixels. 16 background, character colors.

Built-in ROM cartridge port! Insert ROM program cartridge. Multitude of subjects available in stores across the nation!

Original List Price $995.00

Liquidation Priced At Only $388

Item H-970-63631-00 Ship. handling: $20.00

THE PRINTER

Print method: Bi-directional impact dot matrix.
Character matrix: 6 x 7 dot matrix.
Characters: Upper and lower case letters, numerals and symbols. All PET graphic characters.
Graphics: 7 vertical dots — maximum 480 columns. Dot addressable.
Character codes: CBM ASCII code.
Print speed: 60 characters per second.
Maximum columns: 80 columns.
Character spacing: 10 characters per inch.
Line feed spacing: 6 lines per inch in character mode or 8 lines per inch selectable. 9 lines per inch in graphics mode.
Line feed speed: 5 lines per second in character mode. 7.5 lines per second in graphics mode.
Paper feed: Friction feed.
Paper width: 4.5" to 8.5" width.
Multiple copies: Original plus maximum of two copies.
Dimensions: 13"W x 8"D x 3¼"H. Wt.: 6½ lbs. **Power:** 120V AC, 60 Hz.

Original List Price: $200.00

Liquidation Priced At $119

Item H-970-63831-00 Ship. handling: $7.00

THE SOFTWARE

"Easy Script" One of the most powerful word processors at any price! Cut re-typing, create documents from standard paragraphs, do personalized letters, see and change a document before it is printed. Instruction manual has extensive training section that simplifies use . . . even for someone who has never used a computer or word processor before!

"The Manager" A sophisticated database manager for business or home use. Business uses: accounts payable/receivable, inventory, appointments, task manager. Home uses: mailing lists, home inventory, recipes, collection organizer, investment tracking, checkbook balancing. School uses: research article index, gradebook.

Mfr. Sug. Retail: $73.98

Liquidation Price $24

Item H-970-64011-03 Ship. handling: $3.00

BUY INDIVIDUAL UNITS OR GET THIS ULTRA-FAMOUS SYSTEM AT ONE LOW PACKAGE PRICE!

TOTAL Personal Computer System available at FAR BELOW dealer cost!

Original List Price $1,293.00

TOTAL PACKAGE PRICE $488

Item H-970-64011-02 Ship. handling: $24.00

Compatible with above Computer System (Not included in package price.)

JOYSTICKS (Set of 2)
Mfr. List: $59.90 pr.
Liquidation Price . . . . . $19 pr.
Item H-970-63622-01 S/H: $6.00 pr.

KEYBOARD CRAZY (Music Software)
Mfr. List: $24.95
Liquidation Price $15
Item H-970-64165-03 S/H: $4.25

VISA MasterCard

Credit card members can order by phone, 24 hours a day, 7 days a week.

Toll-Free: 1-800-328-0609

TeleCheck Your check is welcome! No delays when you pay by check!

C.O.M.B. Direct Marketing Corp.
Authorized Liquidator
14605 28th Avenue North
Minneapolis, Minnesota 55441-3397

SEND ME THE ITEMS I HAVE LISTED BELOW

Sales outside continental U.S. are subject to special conditions. Please call or write to inquire.

Item No.	#	Item	Price	S/H
		TOTAL		

C.O.M.B. Direct Marketing Corp. Item H-970
14605 28th Ave. N./Minneapolis, MN 55441-3397

Send the items indicated at left. (Minnesota residents add 6% sales tax. Please allow 3-4 weeks delivery. Sorry, no C.O.D.)

☐ My check or money order is enclosed. (No delays in processing orders paid by check, thanks to TeleCheck.)

Charge: ☐ MasterCard ☐ VISA

Acct. No. _____ Exp. ____/____

PLEASE PRINT CLEARLY

Name _____

Address _____

City _____

State _____ ZIP _____

Phone (___) _____

Sign Here _____

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 4 continued.

```
11Ø @CHAR,55296,Ø,12,1,1,"{SHFT T}HIS IS A
    DEMO OF 8Ø CHARACTERS PER LINE.{3 SPACE
    s}{SHFT Y}OU WILL NOTICE IT IS THE SAME
     AS{3 SPACEs}IN NORMAL 8Ø COLUMN TEXT M
    ODE."                                :REM*2Ø8
12Ø @CHAR,55296,Ø,32,1,2,"{SHFT T}HIS IS A
    4Ø COLUMN CHARACTER TEST.{6 SPACEs}{SHF
    T H}ERE WE HAVE THE SAME RESOLUTION AS
    IN{2 SPACEs}COMPOSITE MODE."    :REM*222
13Ø @CHAR,55296,Ø,66,2,2,"{SHFT T}HIS IS DO
    UBLE HEIGHT, DOUBLE WIDTH.{4 SPACEs}{SH
    FT L}OOKS GOOD, RIGHT?"         :REM*114
14Ø @CHAR,55296,Ø,1Ø2,5,5,"{2 SPACEs}{SHFT
    W}E COULD DO{3 SPACEs}THIS ALL NIGHT!"
                                     :REM*6Ø
15Ø @CHAR,55296,Ø,18Ø,2,5,"{SHFT B}UT LET'S
     GO ON."                        :REM*176
16Ø SLEEP 1Ø                         :REM*14
1ØØØØ REM GOTO TEXT MODE, PRINT STATUS AND
      END PROGRAM                    :REM*75
1ØØ1Ø @TEXT:HELP:END                :REM*217
```

Listing 5. *Line-drawing demo program.*

```
1Ø REM LINE DEMO WITH TEXT           :REM*246
2Ø FAST: REM ENABLE 2 MH MODE        :REM*224
3Ø POKE47,Ø:POKE48,68:CLR: REM SET UP 16K B
   UFFER FOR @STASH                  :REM*148
4Ø @GRAPHIC,Ø,2: REM GOTO ULTRA HIRES SCREE
   N (64Ø X 2ØØ) AND SET COLORS BG,FG
                                     :REM*78
5Ø @CLR,Ø: REM CLEAR ULTRA HIRES SCREEN
                                     :REM*216
6Ø TRAP 1ØØ1Ø:REM SET UP SYNTAX ERROR TRAP
   TO RETURN TO TEXT MODE AND LIST ERROR
                                     :REM*174
7Ø :                                  :REM*46
8Ø REM PROGRAM BEGINS HERE            :REM*78
9Ø :                                  :REM*66
1ØØ FORI=Ø TO 639 STEP 1Ø              :REM*6
11Ø @DRAW,32Ø,1ØØ,I,199,1            :REM*178
12Ø NEXT                             :REM*13Ø
13Ø FORI=Ø TO 639 STEP 1Ø             :REM*36
14Ø @DRAW,32Ø,1ØØ,I,Ø,1              :REM*248
15Ø NEXT                             :REM*16Ø
16Ø @CHAR,53248,Ø,Ø,16,16,"{CTRL X}MOIRE{CT
    RL 2}"                           :REM*218
17Ø @CHAR,53248,8,13Ø,8,11,"{CTRL X}PATTERN
    {CTRL 2}"                        :REM*132
18Ø SLEEP 6                          :REM*1Ø8
1ØØØØ REM GOTO TEXT MODE, PRINT STATUS AND
      END PROGRAM                    :REM*75
1ØØ1Ø @TEXT:HELP:END                 :REM*217
```

Listing 6. *3-D bar demo program.*

```
1Ø REM 3D BAR DEMO                   :REM*1Ø2
2Ø FAST: REM ENABLE 2 MH MODE        :REM*224
3Ø @GRAPHIC,Ø,2:@CLR,Ø: REM ENABLE ULTRA HI
   RES 64Ø X 2ØØ AND CLEAR SCREEN    :REM*66
4Ø TRAP 1Ø1Ø: REM SET UP SYNTAX ERROR TRAP
   TO RETURN TO TEXT MODE AND LIST ERROR
                                     :REM*21Ø
5Ø @CHAR,53248,Ø,Ø,1,1,"{CTRL X}"    :REM*226
6Ø @CHAR,53248,Ø,24,4,4," 3D BARS BY COMMAN
   D"                                :REM*6Ø
7Ø :                                 :REM*46
8Ø REM PROGRAM STARTS HERE           :REM*76
9Ø :                                 :REM*66
1ØØ SLEEP 2                         :REM*22Ø
11Ø @GRAPHIC,Ø,2:@CLR,Ø             :REM*23Ø
12Ø @BOX,Ø,Ø,639,199,1               :REM*4
13Ø FOR X=Ø TO 599 STEP 48          :REM*184
14Ø {5 SPACEs}HT=INT(RND(1)*179)+8  :REM*164
15Ø {5 SPACEs}@BAR,X,199,29,1Ø,HT,1:REM*132
16Ø {5 SPACEs}Z=199-HT+2             :REM*44
17Ø {5 SPACEs}IFHT<8 THEN 21Ø        :REM*12
18Ø {5 SPACEs}C$=STR$(HT)           :REM*124
19Ø {5 SPACEs}C$=RIGHT$(C$,LEN(C$)-1)
                                     :REM*42
2ØØ {5 SPACEs}@CHAR,53248,X,Z,1,1,C$
                                    :REM*13Ø
21Ø NEXT                            :REM*22Ø
22Ø SLEEP 6                         :REM*148
1ØØØ REM GOTO TEXT MODE, PRINT STATUS AND E
     ND                             :REM*231
1Ø1Ø @TEXT:HELP:END                 :REM*141
```

Listing 7. *Circle demo with @Copy, @Stash and @Fetch.*

```
1Ø REM CIRCLE DEMO WITH @COPY, @STASH AND @
   FETCH                             :REM*76
2Ø FAST: REM ENABLE 2 MH MODE        :REM*224
3Ø POKE47,Ø:POKE48,68:CLR: REM SET UP 16K B
   UFFER FOR @STASH                  :REM*148
4Ø @GRAPHIC,Ø,2:@CLR,Ø: REM ENABLE ULTRA HI
   RES 64Ø X 2ØØ AND CLEAR SCREEN    :REM*76
5Ø TRAP 1Ø1Ø: REM SET UP SYNTAX ERROR TRAP
   TO RETURN TO TEXT MODE AND LIST ERROR
                                     :REM*22Ø
6Ø CX=24:CY=8:SC=2.5:FL=Ø:R=1Ø       :REM*128
7Ø REM DRAW CIRCLE CENTER X=CX, CENTER Y=CY
   , RADIUS=R, SC CORRECTS ASPECT RATIO
                                     :REM*16Ø
8Ø FOR R=1 TO 9 STEP 3                :REM*16
9Ø {5 SPACEs}FOR T=Ø TO 6.4 STEP .2  :REM*76
1ØØ {1Ø SPACEs}X=R*COS(T):Y=R*SIN(T):REM*42
11Ø {1Ø SPACEs}SX=SC*X+CX:SY=CY-Y    :REM*228
12Ø {1Ø SPACEs}IF FL=1 THEN 14Ø      :REM*1Ø8
13Ø {1Ø SPACEs}@DOT,SX,SY,1:FL=1:OX=SX:OY=S
    Y                                :REM*23Ø
14Ø {1Ø SPACEs}@DRAW,OX,OY,SX,SY,1:OX=SX:OY
    =SY                              :REM*112
15Ø {4 SPACEs}NEXT                   :REM*16Ø
16Ø {4 SPACEs}FL=Ø                    :REM*78
17Ø NEXT                            :REM*18Ø
18Ø SLEEP 3                          :REM*6Ø
19Ø REM DUPLICATE CIRCLE WITH @COPY COMMAND
                                     :REM*1ØØ
2ØØ FOR YC=Ø TO 183 STEP 2Ø          :REM*1Ø2
21Ø {7 SPACEs}FOR XC=Ø TO 59Ø STEP 5Ø
                                     :REM*146
22Ø {14 SPACEs}@COPY,Ø,Ø,48,2Ø,XC,YC
                                     :REM*198
23Ø {7 SPACEs}NEXT                   :REM*24Ø
24Ø NEXT                             :REM*25Ø
25Ø SLEEP 3                          :REM*13Ø
26Ø @STASH,Ø,Ø,Ø,48,16:REM SAVE ONE COPY OF
     CIRCLE                          :REM*189
27Ø REM ANIMATE WITH FETCH            :REM*95
28Ø TY=1:TX=8:X=INT(RND(1)*583)+7:Y=INT(RND
    (1)*1Ø)+2Ø                       :REM*83
29Ø FOR I=1 TO 1Ø24                  :REM*235
3ØØ {6 SPACEs}@FETCH,Ø,X,Y           :REM*247
31Ø {6 SPACEs}X=X+TX:IF X>59Ø THEN TX=TX*-1
                                     :REM*249
32Ø {6 SPACEs}IF X<8 THEN TX=TX*-1   :REM*231
33Ø {6 SPACEs}Y=Y+TY:IF Y>184 THEN TY=TY*-1
                                      :REM*89
34Ø {6 SPACEs}IF Y<1 THEN TY=TY*-1    :REM*43
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

DON'T WAIT TILL THE LAST MINUTE. SPRING IS JUST AROUND THE CORNER. BUY NOW!

WHILE THE SELECTION IS GOOD.
ALL OUR PRODUCTS ARE GUARANTEED.

Disks 5¼"	List	Sale
Sentinel DS/DD COLOR 10/box		19.95 ☐
Ultra Magnetics BONUS Pack DS/DD 12/box		22.90 ☐
CDC SS/DD 10/box		9.95 ☐
CDC DS/DD 10/box		10.95 ☐
Data Matrix 10/box		11.95 ☐
Dysan DS/DD 10/box		33.95 ☐

	List	Sale
Datarack Head Cleaning Kit	13.95	12.95 ☐
Head Cleaning Kit (c2017)	16.95	7.95 ☐
Datamatrix Head Cleaner	6.99	4.95 ☐
Anti-Static Spray Texwipe	5.95	4.95 ☐
Checkmate Anti Static	3.88	2.95 ☐
Disk Pac 3½" Blue and Black	14.95	7.95 ☐
Disk Pac 5¼" Blue and Black	13.95	6.99 ☐
Disk File (6)	2.95	.99 ☐
Teak Rolltop Disk Storage (5¼" holds 50)	32.95	18.95 ☐
Teak Rolltop Disk Storage (3.5 holds 45)	23.95	14.95 ☐
Data Defender 70 (5¼" holds 70)	26.95	14.95 ☐
Data Defender 15 (5¼" holds 15)	4.49	2.99 ☐
Flip n' File 50 (5¼" holds 50)	19.95	9.99 ☐
Cassette Storage (6) Black and Blue	4.99	.99 ☐

We know of no better disks at any price.

DOLLAR DISKS!!!

- Quality Sentinel brand 5¼" disks
- Reliable, lifetime warranty
- SS/DD only $1.00 each
- DS/DD only $1.15 each
- Any quantity

Brother HR-10 Daisy Wheel Printer

FINALLY! A Letter Quality Printer at a PRICE you can AFFORD . . . . . .

List price 349.00 **YOUR LOW PRICE ONLY $299.00***

The HR-10 is designed to keep pace with modern computing needs by producing sharp, beautiful letter quality text. Thanks to a 2k bytes buffer and bidirectional printing, HR-10 gets everything onto the page quickly and acurately. The sprocket wheel feeder TF-10, which keeps fanfold paper flowing smoothly and efficiently, is standard equipment. And a shadow print feature lets you highlight words or phrases so they stand out from the rest of the text. Other features such as superscript and subscript, auto-underline and carriage skip movement provide versatility usually found on more expensive models.

	List	OUR LOW PRICE*
Brother HR-15 Letter Quality	599.00	349.00 ☐
Olympia-RO Letter Quality	429.00	289.95 ☐
Epson Homewriter Dot Matrix	269.00	219.95 ☐
Epson LX-80 NLQ Dot Matrix-NLQ	299.00	249.95 ☐
Epson FX100 Dot Matrix	849.00	549.95 ☐

Monitors	List	Sale
Sanyo DMC 5500 Color Composite	359.00	229.95 ☐
Sanyo DM2112 Green	118.00	79.95 ☐
Sanyo DM2212 Amber	118.00	79.95 ☐

Software	List	Sale
Inventory Control	34.95	24.95 ☐
Turboprint GT	89.95	55.95 ☐
Financial Cookbook	49.95	30.00 ☐
Commodore 64 Basic	14.95	7.95 ☐
Anatomy of the Commodore	19.95	7.95 ☐
Users Guide to Commodore	4.95	.75 ☐
Evolution	39.95	13.95 ☐
Advanced Machine Language	14.95	9.95 ☐
Archon	40.00	24.95 ☐
Paper Clip	89.95	54.95 ☐
Bankstreet Musicwriter	49.95	29.95 ☐
Indiana Jones	29.95	19.95 ☐
Super Disk Utility	22.95	12.95 ☐
Farneheit 451	32.95	19.95 ☐
Mail Controller	49.95	24.95 ☐
Movie Maker	60.00	26.95 ☐
Golden Oldies	32.95	27.95 ☐
Auto Duel		37.95 ☐
Racing Destruction set		26.95 ☐
Sky Fox		29.95 ☐
Wishbringer		24.95 ☐
Flight Simulator II		34.95 ☐
Print Shop	44.95	29.95 ☐
Practicalc (C)	49.95	8.95 ☐
Fast Load (rom)	39.95	25.95 ☐
Rainbow Quest (D&C)	19.95	9.95 ☐
Super Slither (C)	19.95	8.95 ☐
Spaceman (C)	19.95	8.95 ☐
Sargon III	39.95	33.95 ☐
Shadow Keep	39.95	23.00 ☐
Dragon World	39.95	23.00 ☐
Amazon	39.95	23.00 ☐
Space Math (C)	14.95	8.57 ☐
C-64 Graphics and Sound	12.95	11.95 ☐
Anatomy of the Commodore	19.95	14.95 ☐
Real of Impossibility	35.00	24.95 ☐
Adventure Construction Set	40.00	29.95 ☐
Dr. J and Larry Bird	32.95	24.95 ☐
Sea Stalker	39.95	29.95 ☐
Chartpak 64	42.95	25.95 ☐
Stock Analyzer	54.50	41.95 ☐
Cut and Paste	45.45	39.95 ☐
C-64 Programmer's Reference Guide	19.95	9.95 ☐

Hardware

	List	Price
Cassette Recorder for C-64 or Vic-20	59.95	38.95 ☐
Cardco +G Printer interface with Graphics For C-64 and Vic-20	99.95	WOW24.95 ☐

VIC-20 SAVINGS!!

Don't MISS OUT on these INCREDIBLE savings on VIC-20 Software! All products listed below can be yours for only $8.57 per item*. !!!**FIRST COME FIRST SERVED—LIMITED QUANTITIES—ORDER NOW!!!**

Practicalc (C)	Composer (C)	Gortek & Micro Chips (D)
Cubic (C)	Black Jack (C)	Stealth (C)
Crossfire (C)	Grimms Fairy Tales (C)	Fly Snatcher (C)
Cosmic Games (C)	Outworld (C)	Qubic (C)
Quick Brown Fox (cart)	The Cube Game (C)	Barrel Jumper (C)
Your Vic-20	Chess (C)	SWARM (C)
Voodo Castle (C)	Backgammon	Super Alien (C)
Math Duel (C)	(C)Snackman (C)	CSADD Disassembler (C)
Bio Rhythm (C)	Johnny Jumpet (C)	HI-Res Graphics (C)
Tank Wars (C)	Tiny Tutor (C)	Aggressor (C)
Ultra Simon (C)	Flower Power (C)	The Gambler (C)
Sub Command (C)	Sprint Typer (C)	Car Chase (C)
Radar Rat Race	Rabbit Base (C)	The Carpooler (C)
Mole Attack (cart)	VIC REVEALED (BOOK)	Coupon Manager (C)
Alien Blitz (C)	Galactic Blitz (C)	States and Capitals (C)
Stock Option (C)	Spiders of Mars (C)	EXPANSION INTERFACE!!!!
Road Test (C)	Pac Bomber (C)	
Torpedo (C)	Personal Finance (C)	
Reflections (C)	Apple Panic (C)	
Reversal (C)	Super Slither (C)	

Protect Your Software

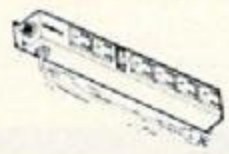
FLIP 'N' FILE /15

Protect Software from dust, debris and moisture. Stores up to 15 5¼ diskettes.

List Price $9.95 **Sale $7.95**

Also Available	LIST	SALE
Flip 'n' File /50	$19.95	$14.95 ☐
Data Defender /35	$ 9.95	$ 7.95 ☐
Data Defender /70	$26.95	$19.95 ☐
Roll Top /100	$49.95	$39.95 ☐

Kill Spikes, Fight Surge!



MAXI Strip

Protect Valuable electronic equipment and data files from damage. Surge and spike suppressor and noise combination converts one outlet into six.

List $34.95 **WOW!!!** only **$19.95**

Also save on surge suppressors by CURTIS...

	List	SALE
Diamond	$49.95	$39.95 ☐
Emerald	$59.95	$49.95 ☐
Sapphire	$79.95	$69.96 ☐
Ruby	$89.95	$79.95 ☐

FAN FOLD COMPUTER PAPER

	LIST	SALE
15# 1000 Sheets	$14.96	$ 9.95 ☐
20# 1000 Sheets	$19.95	$14.95 ☐
20# 1000 Sheets micro-perfed	$19.95	$14.95 ☐
20# 2500 Sheets	$32.95	$26.95 ☐

PICO PRODUCTS SPECIAL
GLARD GUARDS FOR YOUR CRT

These screens are available for color or mono (please specify). •Fine Nylon Mesh•Easy Attachment with Velcro strips•Reversible black or cream color•Prevents dust accumulation

ONLY 19.95 for 12" and 24.95 for 14"

CALL TOLL FREE 800-843-6700

or call our bbs 603-357-4306 operator 1105 (N.H.—603-352-3736)

Some quantities limited. Selection may vary.

instant Software
computer centers

or clip and mail coupon to Instant Software, WGE Center/70 Rte 202N, Peterbrough, NH 03458 *call for shipping charges
MC, VISA, M.O. or check accepted. Add $3.00 for shippping and handling.

Name_____

Address_____

City_____ State_____ Zip_____

KEENE: 82 Main St. 603-352-3736 • **NASHUA:** Nashua Mall 603-889-0064 • **HUDSON:** 358 Lowell Rd. 603-883-8080 • **BOSTON:** 355 Boylston St. 617-353-1582 • **ACTON:** 427 Great Rd. 617-263-0418

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Listing 7 continued.

```
35Ø NEXT                                        :REM*1Ø5
36Ø SLEEP 6                                      :REM*33
1ØØØ REM EXIT TO TEXT MODE AND PRINT ERRORS
      (IF ANY)                                   :REM*2Ø9
1Ø1Ø @TEXT:HELP:END                              :REM*141
```

Listing 8. *3-D animation demo using @Stash and @Fetch.*

```
1Ø REM 3D CUBE DEMO USING @STASH AND @FETCH
                                                 :REM*7Ø
2Ø FAST: REM ENABLE 2 MH MODE                    :REM*224
3Ø POKE47,Ø:POKE48,132:CLR: REM SET UP 32K
   BUFFER FOR @STASH                             :REM*2Ø4
4Ø @GRAPHIC,Ø,2:@CLR,Ø: REM GOTO ULTRA HIRE
   S (64Ø X 2ØØ) AND CLEAR SCREEN                :REM*46
5Ø TRAP 47Ø:REM SET UP SYNTAX ERROR TRAP TO
    RETURN TO TEXT MODE AND LIST ERROR
                                                 :REM*116
6Ø DIM X(19),Y(19),Z(19),A(65)                   :REM*238
7Ø REM READ CUBE DATA INTO ARRAYS                :REM*232
8Ø @CHAR,53248,Ø,1ØØ,2,4,"{CTRL 2}FRAMES TO
    GO "                                         :REM*2Ø
9Ø FOR I=1 TO 18                                 :REM*246
1ØØ {6 SPACEs}READ X(I),Y(I),Z(I)                :REM*8Ø
11Ø NEXT                                         :REM*12Ø
12Ø RH=1Ø:D=48:TH=-2*{PI}:P=1.4:CX=8Ø:CY=36
    :MC=Ø:SD=6.5                                 :REM*232
13Ø REM LOOP TO DRAW 3D CUBE AND @STASH EAC
    H FRAME INTO BUFFER                          :REM*13Ø
14Ø FOR CT=1 TO 64                               :REM*132
15Ø {6 SPACEs}@CHAR,53248,424,1ØØ,2,4,STR$(
    65-CT)+" "                                   :REM*2ØØ
16Ø {6 SPACEs}S1=SIN(TH):S2=SIN(P):C1=COS(T
    H):C2=COS(P)                                 :REM*136
17Ø {6 SPACEs}X=X(1):Y=Y(1):Z=Z(1):GOSUB 49
    Ø:OX=SX:OY=SY                                :REM*23Ø
18Ø {6 SPACEs}FOR I=2 TO 5                       :REM*58
19Ø {12 SPACEs}X=X(I):Y=Y(I):Z=Z(I):GOSUB 4
    9Ø:@DRAW,OX,OY,SX,SY,1:OX=SX:OY=SY
                                                 :REM*2
2ØØ {6 SPACEs}NEXT                               :REM*21Ø
21Ø {6 SPACEs}X=X(6):Y=Y(6):Z=Z(6):GOSUB 49
    Ø:OX=SX:OY=SY                                :REM*64
22Ø {6 SPACEs}FOR I=7 TO 1Ø                      :REM*48
23Ø {12 SPACEs}X=X(I):Y=Y(I):Z=Z(I):GOSUB 4
    9Ø:@DRAW,OX,OY,SX,SY,1:OX=SX:OY=SY
                                                 :REM*42
24Ø {6 SPACEs}NEXT                               :REM*25Ø
25Ø {6 SPACEs}FOR I=11 TO 17 STEP 2              :REM*18
26Ø {12 SPACEs}X=X(I):Y=Y(I):Z=Z(I):GOSUB 4
    9Ø:OX=SX:OY=SY                               :REM*2Ø3
27Ø {12 SPACEs}X=X(I+1):Y=Y(I+1):Z=Z(I+1):G
    OSUB 49Ø:@DRAW,OX,OY,SX,SY,1                 :REM*97
28Ø {12 SPACEs}OX=SX:OY=SY                       :REM*223
29Ø {6 SPACEs}NEXT                               :REM*45
3ØØ {6 SPACEs}@STASH,MC,45,1Ø,7Ø,55              :REM*39
31Ø {6 SPACEs}A(CT)=MC:MC=PEEK(25Ø)+PEEK(25
    1)*256+1:REM NEXT AVAILABLE ADDRESS
                                                 :REM*79
32Ø {6 SPACEs}D=D+SD:IF D>249 THEN D=249
                                                 :REM*223
33Ø {6 SPACEs}TH=TH+.2:@COPY,32Ø,Ø,3ØØ,75,Ø
    ,Ø                                           :REM*215
34Ø NEXT                                         :REM*95
35Ø @CLR,Ø: REM BEGINNING OF ANIMATION ROUT
    INE                                          :REM*237
36Ø @CHAR,53248,8Ø,Ø,2,3,"3D GRAPHICS ARE E
    ASY"                                         :REM*217
37Ø @CHAR,53248,56,24,2,3,"USING C128 ULTRA
     HIRES"                                      :REM*25
38Ø @CHAR,53248,56,146,2,3,"WITH @STASH AND
     @FETCH"                                     :REM*9
39Ø @CHAR,53248,56,17Ø,2,3,"IN YOUR BASIC P
    ROGRAMS"                                     :REM*197
4ØØ REM BLITTER ANIMATION USING THE @FETCH
    COMMAND                                      :REM*117
41Ø FOR K=1 TO 64:@FETCH,A(K),25Ø,65:NEXT
                                                 :REM*71
42Ø FOR K=33 TO 64:@FETCH,A(K),25Ø,65:NEXT
                                                 :REM*73
43Ø FOR K=64 TO 33 STEP-1:@FETCH,A(K),25Ø,6
    5:NEXT                                       :REM*225
44Ø FOR K=64 TO 1 STEP-1:@FETCH,A(K),25Ø,65
    :NEXT                                        :REM*9
45Ø GET A$:IF A$<>"*" THEN 41Ø                   :REM*63
46Ø REM GOTO TEXT MODE, PRINT STATUS AND EN
    D                                            :REM*2Ø1
47Ø @TEXT:HELP:END                               :REM*111
48Ø REM CONVERT X,Y,Z TO SCREEN X,Y:REM*249
49Ø XT=-X*S1+Y*C1:YT=-X*C1*C2-Y*S1*C2+Z*S2:
    ZT=-X*S2*C1-Y*S2*S1-Z*C2+RH                  :REM*121
5ØØ SX=D*XT/ZT+CX:SY=CY-D*YT/ZT:RETURN
                                                 :REM*45
51Ø REM DATA THAT DESCRIBES 3D CUBE:REM*237
52Ø DATA -1,-.75,.5,1,-.75,.5,1,-.75,-.5,-1
    ,-.75,-.5,-1,-.75,.5                         :REM*162
53Ø DATA -1,.75,.5,-1,.75,-.5,1,.75,-.5,1,.
    75,.5,-1,.75,.5                              :REM*84
54Ø DATA -1,-.75,.5,-1,.75,.5,-1,-.75,-.5,-
    1,.75,-.5,1,-.75,.5                          :REM*162
55Ø DATA 1,.75,.5,1,-.75,-.5,1,.75,-.5
                                                 :REM*24Ø
```

Circle 132 on Reader Service card.

NEW UPDATED
DISK NIBBLER
VERSION 2.1

FOR COMMODORE 64 and 128 (in 64 mode)

- Copies 70 new 1985 disks not copied by the original ULTRABYTE DISK NIBBLER
- Copies 30 more disks than NIBBLER V2.0
- Copies 99+% of protected software

NIBBLER V2.1 EVEN COPIES ITSELF

For this reason, no refunds will be given

THREE NIBBLERS ON ONE DISK

- Single 1541 or 1571, copies in 3 minutes
- Two 1541's, copies in 60 seconds
- Dual MSD drive, copies in 70 seconds
- Both automatic and manual copy parameters for single 1541 or 1571

(Dual drive Nibblers are not quite as powerful)

$ 39.95 + $ 4.00 shipping & handling

Mastercard, Visa, Check or M.O., Calif. add 6.5% ($2.60) sales tax. Foreign orders / COD add $2.00. Payment must be in U.S. funds

UPDATES - Previous ULTRABYTE customers may order V2.1 for $20.00 plus $4.00 shipping. Owners of V2.0 may have their disk updated to V2.1 by returning the original V2.0 disk with $10.00 plus $4.00 shipping. Foreign add $2.00. No COD's on updates

To order, write or call 24 hr. order line
For information, write. Phone for orders only
ULTRABYTE (818) 796 - 0576
P.O. Box 789 LaCanada, CA 91011 USA

DEALERS & DISTRIBUTORS WANTED

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 223 on Reader Service card.

The Handicapper

Use your **Commodore 64** to improve your performance at the track! These fine programs for **Thoroughbreds, Harness Horses** and **Greyhounds** combine the power of your computer with the savvy of a veteran handicapper. Spend a few minutes entering data, and The Handicapper will rank the horses or dogs in each race. All the information you need is readily available from the Thoroughbred Racing Form, harness or greyhound track program. We even provide a diagram that shows you where to find it!

Horse racing factors include speed, class, past performance, post position, stretch gain, beaten favorite, jockey or driver's record, weight (for thoroughbreds) and parked-out signs (for trotters). **Greyhound factors** include speed, past performance, class, favorite box, kennel record, breaking tendencies, beaten favorite.

Instructions and wagering guide included. **Thoroughbred, Harness or Greyhound Handicapper,** only $34.95 each on tape or disk. Any two, just $54.95. All three only $74.95.

MasterCard

Federal Hill Software
8134 Scotts Level Rd.
Baltimore, MD 21208

VISA®

Toll Free (Orders Only) 800-245-6228
For Information Call 301-521-4886

SATISFACTION GUARANTEED OR MONEY BACK

1985 TAX RETURN HELPER

Fast and easy income tax preparation

- This is the 5th annual edition - thousands of repeat customers
- Includes Form 1040, Schedules A, B, C, D, E, G, SE, W, Forms 2106, 2441 and 4562
- Enter and modify data on a screen copy of the form.
- Works like a spreadsheet - all the lines affected by a change are instantly updated.
- Automatic tax computation.
- Data can be saved on disk and updated.
- Also included:

TAX DBASE

A data base program to create and maintain files of tax related items (medical, car expenses, etc.) that can be used directly by the tax programs.

- Can be used all year round. Also good for many other accounting jobs (checkbook balancing, etc.)

Price is **tax deductible. C64 disk: $33 (+ $1.50 S&H)**

PROFESSIONAL VERSION - also prints data on IRS forms: $45 (+ $1.50 S&H)

Previous customers prices: $22 and $30 for pro-version (+ $1.50 S&H)

KSOFT CO.
845 WELLNER RD.
NAPERVILLE, IL 60540
(312) 961-1250

VISA

MasterCard

Dealer inquiries welcome.

---

commodore

MONITORS DISK DRIVES

$139 FULL COLOR

NEW UNITS $149.00

RGB and Composite
ZENITH CUM-131
for C-128 and C-64

1541
COMMODORE

COMPUTERS

$274.95

$138.00

COMMODORE 128

C64

VIDEO

VCR's
HOME DECK
VHS
$249.00

$198 PORTABLE VIDEO RECORDER

CABLE TV

NO
PAY TV?

UHF DECODERS, VHF CONVERTERS JERROLD, OAK, SCIENTIFIC, ATLANTA ZENITH

MORE INFORMATION — CALL TODAY

T & D ELECTRONICS
10517 UPTON CIRCLE
BLOOMINGTON, MN 55431

MasterCard

VISA

call **TOLL FREE**
1-800-328-8322 EXT. 581

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The Resource Center

By MARGARET MORABITO

Computer networking is quickly becoming a valuable tool—and even a necessity—for increased productivity in both small businesses and schools. Although networking is usually associated with big business and big budgets, it does not have to be expensive. In fact, networking is catching on in budget-conscious school systems as an inexpensive way to share peripherals, thereby putting more students on computers more often.

How do you solve the problem of giving students access time with a limited amount of equipment? Read how one small school system makes a little go a long way with networking. And the solution is not as expensive as you might think.

Multi-User Computer Networking

The term multi-user networking has various meanings. In a broad sense, networking refers to the linking together of stand-alone personal computers or dumb terminals so they can communicate or share centralized information or peripherals.

Large companies and institutions often use dumb terminals. These are connected to a central mainframe computer that is usually housed somewhere on the premises, but that can be located in a separate building and be remotely controlled. The terminals can be connected by phone lines or directly by cables. All files and programs are held in the mainframe, ready to be called into individual terminals by the user.

In this setup, information can be shared, and communication between terminals is possible. When the mainframe is off, the terminals cannot function.

School systems that use computers for classroom instruction and administrative purposes often have personal computers (rather than dumb terminals) linked together in a network, primarily for sharing peripherals. The computers in this multi-user system are independent from a central mainframe, and the user has more direct control of the applications that he or she runs. Eight or more personal computers can be linked to a single disk drive and a printer by direct connection to a multi-user switch housed near the group of computers.

More Computers for the Money

For a school system with a limited budget, this second type of multi-user networking is the solution. It is cost-effective because, instead of having to invest in a disk drive for each computer, a school can buy just one drive to be shared by a group of eight computers. Furthermore, each group can also share a printer, thereby saving even more money. With the savings, a school can purchase more computers, multi-user switches or software.

Commodore personal computers are a good choice for school systems because they are so inexpensive—currently, the C-64 is selling for close to $100 and the C-128 for about $275. These low prices allow a school to buy five to ten times as many Commodores as it could the more expensive computers, such as Apple IIs and Tandy computers.

Considering the availability of Commodore multi-user networking links (many of which cost only about $150), the consistently low prices of peripherals and the large amount of software available, any school system would be wise to look into Commodore computers.

One School System's Experience

The Winchester Elementary School, in Winchester, New Hampshire, has been using computers for five years, according to the principal, Curt Cardine, who is the moving force behind this program.

Winchester now has 32 C-64s and VIC-20s in the classrooms and one C-64 for administrative purposes. The classroom computers are linked together with multi-user switches. They use a combination of 1702 monitors, black-and-white television sets and monochrome monitors.

Two fourth-grade classes use seven VICs and one C-64. Two fifth-grade classes are sharing six VICs and two C-64s, and two sixth-grade classes share 16 C-64s. Only four 1541 disk drives and four Commodore printers are needed to provide peripheral access for these 32 workstations.

When asked why he chose Commodores, Cardine replied, "Money. We are one of the poorest school systems in the entire state." Commodore computers were the obvious choice. Cardine decided that it makes more sense to let your money pay

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

for a group of C-64s than to buy just one Apple II.

The problem in many school systems is that they are trying to teach computer applications to a class of 20 to 30 students with just one expensive computer. Even a poor school district, however, can get computers into its schools if it takes the time to select cost-effective equipment.

When asked if he would prefer Apple IIs if his budget were bigger, Cardine said emphatically, "No."

The Commodore's easy-to-use screen-editing features, cursor controls and keyboard graphics are some of the reasons for his preference.

"My time on an Apple is double my time on a C-64 because of the Apple's crude screen editing," he said. Also, he finds that the VIC-20s are well-suited to younger elementary grade students because of the large, colorful, easy-to-read letters.

Another benefit of using Commodores in the school system is that students' parents can often afford to buy a C-64 for use at home. This provides an excellent means for doing homework and follow-up study of school training.

The Winchester school has been able to give most students an opportunity to work on a VIC-20 or a C-64 on a weekly, and in some cases, daily, basis. Although Cardine currently provides only one class session of formal instruction per week for the fourth through sixth grades, students work on the computers at recess time, during free time and after school. Without networking, this just would not be possible; there would be too many students waiting around to use the computers.

The VIC Switch

Cardine started off five years ago with two VIC-20s (then priced at $300 each), two monitors and two cassette recorders. He quickly saw that the school needed more computer stations. It was obvious, however, that it would be too expensive to buy the complete system for each station.

The following year, as a result of a federal grant (Title 4C), the school was able to buy a C-64, five more VIC-20s, one disk drive, a 1525 printer and, most important, a VIC Switch ($150) by Handic Software.

The VIC Switch is typical of the multi-user links on the market today for Commodore computers. It is a small unit, with nine serial ports—eight input ports for connecting directly to eight computers and one output port. The output port is for connecting a peripheral, such as a disk drive, that will be shared by all eight computers. A printer can then be daisy-chained from the disk drive and shared by the entire network of computers.

The VIC Switch has worked well over the years and has brought computer training to many students in this school. There has been one problem, however. When two computers would try to access a peripheral simultaneously, the VIC Switch would often lock up.

This condition can occur when one student forgets to close his or her channel to the disk drive or printer. When the next student tries to access the peripheral, the lockup occurs. You can avoid this problem by having the student make sure that the channel to a peripheral is properly closed and that the other students know when the peripheral is free for access.

The Microshare Multi-User Disk System

Although the Winchester school system does not regularly use the Microshare system (from Comspec Communications), Cardine has tested this networking device in his classrooms. Its price is $900, which is a prohibitive factor for this school's tight budget.

Despite the price, the Microshare system has strengths. Unlike the VIC Switch, it is designed to allow all users to load the same software simultaneously. But when Cardine tested this unit on various commercial software products, he discovered that the unit would not perform group loads of software that had automatic load routines built into them.

Some other features of this system include a built-in print buffer with a software-selectable device number, individual disk error status reports for each user, individually controllable channel switching delay and the ability to link eight IEEE or seven serial devices. An internal hardware change is required to accept eight computers, whereas both the VIC Switch and the CSI-64 Switch are initially set up to accommodate eight computers.

The CSI-64 Switch

Recently, the Winchester Elementary School purchased two CSI-64 Switches, which have proven to be most valuable. The price, performance and availability of the CSI-64

Circle 198 on Reader Service card.

DUST COVERS
★ CUSTOM MADE TO FIT
★ Heavy 32-oz. VINYL ANTI-STATIC
★ EXTENDS EQUIPMENT LIFE
★ Choice of Colors Lt. Tan or Brown

COMPUTERS
C-64; VIC-20; C-16; Plus 4 ..... 8.00
C-128, B-128 ..... 13.00
DATASETTE (NEW, C2N) 5.00

DISK DRIVES
C-1541; C-1571 INDUS GT 8.00
MSD S/D; APPLE S/D 8.00
MSD D/D; APPLE D/D UNIT 10.00
ENHANCER 2000 ..... 8.00

PRINTERS
C-1525/MPS801 ..... 10.00
C1526/MPS802 ..... 13.00
C/MPS 803; C-1520 ..... 8.00
PANASONIC KX-P1090/91 ..... 13.00
EPSON MX/RX/FX 80 ..... 13.00
GEMINI 10 & STAR 10's 13.00
GEMINI 15 & STAR 15's 16.00
OKIDATA 91/92 ..... 13.00
OKIMATE 10 ..... 8.00

MONITORS
C-1702 ..... 16.00
C-1902/AMIGA 19.00
ZENITH ZVM 122/123 ..... 16.00
AMDEK COLOR I, 500/700 ..... 19.00
TEKNIKA MJ 10/22 ..... 19.00
CM-141 ..... 19.00
BMC COLOR 16.00
VIDEO RECORDERS 13.00
(Dimensions Required)

Order by stating NAME and MODEL and COLOR CHOICE TAN or BROWN.
Enclose check or money order plus $1.50 per item (4.50 max.) shipping and handling California Res. Include 6.5% Sales Tax.

SPECIAL COVERS WILL BE MADE TO YOUR DIMENSIONED SKETCH. SEND YOUR REQUIREMENTS FOR OUR LOW PRICE QUOTES

Crown Custom Covers
9606 SHELLYFIELD RD., Dept. B
DOWNEY, CA 90240
(213) 862-8391

Circle 123 on Reader Service card.

HOT ACCOUNTS™
The most highly acclaimed bookkeeping system for the Commodore 64 & 128*

A Superb!
An exceptional program that outshines all others.
RUN Magazine, Nov. 1984

HOT ACCOUNTS™ teaches you bookkeeping as it automatically performs dozens of full-service accounting functions. It is a complete system that will instantly organize your records and receipts and supply charts, formal statements, and budget information. Now your records can be accurate, up to date and confidential ■ Tracks charge cards, checkbooks, all transactions ■ Requires no prior knowledge of accounting ■ Home or small business ■ Improves your financial image ■ Cost less than 1 hour with a C.P.A.

"HOT ACCOUNTS"* Bookkeeping System on Disk for the 64 & 128 in 64 mode.

For **RUSH** delivery, send check or money order for $64.95 to:
C.Ed. Software
3051 India Street
San Diego, CA 92103

Credit card orders, call **toll-free**
1-800-621-0852 ext. 238
VISA **MASTERCARD**

P.S. *Use* HOT ACCOUNTS ™ *to do your taxes and the price is tax deductible!*

BONUS OFFER (Order now and receive a full featured, 60 function **word processing** & 3-D **business graphics** package as our **FREE** gift to you.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Switch, from Computer Specialties, Inc., are the features that make it particularly attractive to the Winchester school.

With the CSI-64, which costs about $130, you can connect up to eight C-64s, VIC-20s, Plus/4s, C-16s or C-128s to a single disk drive and a printer. All Commodore serial printers will work with this, and you can use certain interfaces to allow the use of non-Commodore printers.

Cardine discovered that the CSI-64 Switch rarely locks up. It handles simultaneous requests for access by queuing up the computers. The system works on a first-come, first-serve basis and puts subsequent requesters on hold until the present user has finished. There is a light on the front of the unit that lets the users see which of the eight computers is accessing the drive or printer.

The Winchester school is planning to buy more CSI-64 switches to link together several more classrooms of C-64s and new 128s. The ultimate goal is to provide a computer for every student.

CSI has recently come out with an Instructor Monitor Prompter (IMP) device that lets a teacher monitor any of 16 computers. The IMP allows the master computer station to observe what each computer on-line is doing, communicate with any of the users and perform group loading of software at an incredibly fast speed. (This is a fairly new product and has yet to be tried at the Winchester school.)

Does It Work?

I asked Curt Cardine if he had been able to measure an improvement in learning in those students who had been using computers. He said, "Yes. Their thinking skills went way up." Cardine studied one group in his school and was excited about the trends that he saw. Twenty-four students, after spending one year learning about computers and actually working on them, increased an average of two years on their achievement tests.

"Children can actually push themselves through developmental stages. They definitely advance in their ability to reason things out," said Cardine.

The Winchester school is a prime example of how a non-affluent system is able to bring to its students computer training that is often available only in wealthier schools. Multi-user networking has proven to be the only way that this school has been able to provide computer education for its students.

I welcome comments about computer networking from those of you who are using this application. I also encourage you to contact me if you are using Commodore computers for any type of educational purpose, whether in a school, community activity or at home. R

Address all author correspondence to Margaret Morabito, The Resource Center, c/o RUN *editorial, 80 Pine Street, Peterborough, NH 03458.*

VIC Switch
Handic Software, Inc.
400 Patterson Plank Road
Carlstadt, NJ 07072

CSI-64 Switch
Computer Specialties, Inc.
Corporate Offices
PO Box 1718
Melbourne, FL 32902

Microshare Multi-User System
Comspec Communications, Inc.
153 Bridgeland Ave., Unit 5
Toronto, Ontario M6A 2Y6

Circle 74 on Reader Service card.

PROFESSIONAL HANDICAPPING SYSTEMS

• PRESENTED BY PROFESSOR JONES •

GLD. Thoroughbred "Gold" Edition™
A "Full" featured thoroughbred analysis designed for the professional and the serious novice.
$159.95 complete

EGLD. Enhanced "Gold" Edition™
"Gold" Edition with complete Master Bettor™ system integrated onto the same disk. This powerful program will transfer all horses and scores to the bet analysis with a "single keystroke."
(Master Bettor™ included) $199.95 complete

GLTD. Limited "Gold"™
Enables **Professional Handicappers** to assign specific values to the racing variables they feel are important. Create program weight based on a particular track and fine tune it for **maximum** win percentage. This program is designed for "ease of use". The user needs **no programming experience.**
(contains Integrated Bettor™) $299.95 complete

GD. Gold Dog Analysis™ $149.95
The ONLY professional greyhound analysis available that evaluates ALL variables. w/Integrated Bettor $199.95
Limited Version $299.95

MHH. Master Harness Handicapper™
Professional software designed to provide a thorough analysis of all trotter and pacer races in the United States and Canada.
complete $159.95
w/Integrated Bettor $199.95
Limited $299.95

Professor Pix Football™
Complete STATISTICAL ANALYSIS on Data Base allowing "Designated" previous games to be evaluated.
Statistical Series $99.95
w/Win-Loss Power Ratings $149.95

NBA. Basketball™
NBA $99.95 w/college $129.95
w/power ratings $149.95

LOT. Lottery Analysis™
Statistical comparison program designed to detect subtle patterns in winning numbers and digits.
Lottery (3-4 digit) $79.95
w/Lotto (Max. 99 Digit) $99.95

PC-3 Portable Computer (4k) w/choice of Thoroughbred, Greyhound or Trotter™ $249.95 (includes portable computer & program.)

M-100 Portable (32k) w/choice of Thoroughbred, Greyhound, or Trotter and Master Bettor $649.95
(Includes portable computer and program.)

FREE CATALOG!

★★★★★ "Your BEST BET in handicapping software..."
Reviewed by: Whole Earth Software Guide, Corona Data Systems

Prof. Jones
1940 W. State
Boise, ID 83702
VISA MasterCard
AMEX

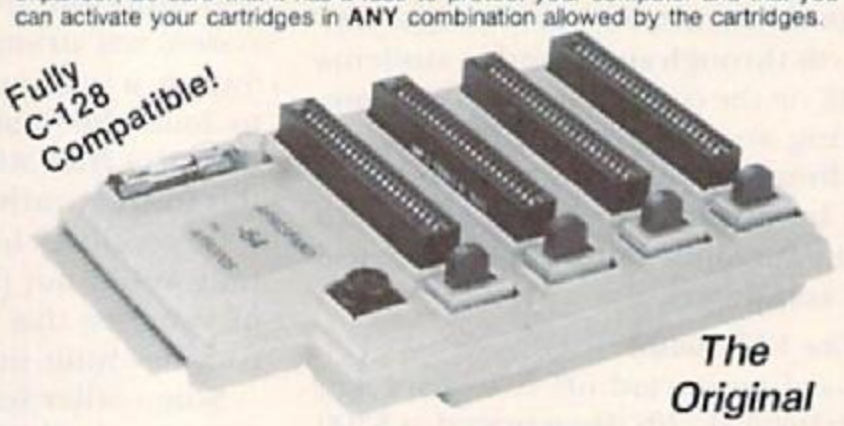
48 HR. FREE SHIPPING

CALL
(208) 342-6939

TERMS: Free shipping all software. Add $6.00 hardware/$6.00 C.O.D. / UPS Blue $6.00/Out of Country $9.00/ID Residents 4%/3 weeks personal checks/Cash price only, add 2% Visa, MC, AMEX. Prices subject to change.

APROSPAND-64™ Gives your Commodore 64 or 128 full expandability! This superbly designed expansion module plugs into the expansion port & gives you 4 switchable (singly or in any combination) expansion connectors - plus fuse protection - plus a reset button! Before you buy an expander, be sure that it has a fuse to protect your computer and that you can activate your cartridges in **ANY** combination allowed by the cartridges.

Fully C-128 Compatible!



The Original

Reduced to ONLY $29.95

Commodore Interfaces and Accessories

ParallAX-CD Parallel Printer Interface for use with all Commodore incl. SX-64 (except PET).....$59.95
DSI PPI Printer Interface with Graphics.....$44.95
Cardprint G-WIZ Printer Interface.....$48.95
Cardprint +G Printer Interface.....$39.95
TH002 300 Baud Direct Connect Modem.....$35.00
RAMAX-VIC-20 2 Slot Expander w/27K RAM.....$59.95
RAMAX Kit. RAMAX without RAM.....$24.95

Add Shipping Per Item: $3.00 Cont. U.S. $6.00 CAN, Mex, PR, HI, AK, UPS Blue

APROTEK
1071-A Avenida Acaso, Camarillo, CA 93010
CALL OUR TOLL FREE ORDER LINES TODAY:
1-(800) 962-5800 USA or 1-(800) 962-3800 CALIFORNIA
TECHNICAL INFORMATION: 1-(805) 987-2454
All Products have 2 Week Satisfaction or Money Back Guarantee

CA Res. Add 6% Tax
Listed are cash prices.
Visa or MC add 3%

Circle 210 on Reader Service card.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Program Your Own EPROMS

promenade™

▶ VIC 20
▶ C 64

$99.50

PLUGS INTO USER PORT.
NOTHING ELSE NEEDED.
EASY TO USE. VERSATILE.

- Read or Program. One byte or 32K bytes!

OR Use like a disk drive. LOAD, SAVE, GET, INPUT, PRINT, CMD, OPEN, CLOSE—**EPROM FILES!**

Our software lets you use familiar BASIC commands to create, modify, scratch files on readily available EPROM chips. Adds a new dimension to your computing capability. Works with most ML Monitors too.

- Make Auto-Start Cartridges of your programs.
- The *promenade*™ C1 gives you 4 programming voltages, 2 EPROM supply voltages, 3 intelligent programming algorithms, 15 bit chip addressing, 3 LED's and NO switches. Your computer controls everything from software!
- Textool socket. Anti-static aluminum housing.
- EPROMS, cartridge PC boards, etc. at extra charge.
- Some EPROM types you can use with the *promenade*™

2758	2532	462732P	27128	5133	X2816A*
2516	2732	2564	27256	5143	52813*
2716	27C32	2764	68764	2815*	48016P*
27C16	2732A	27C64	68766	2816*	

▶ *Commodore Business Machines

*Denotes electrically erasable types

Call Toll Free: 800-421-7731 **or 408-287-0259**
In California: 800-421-7748

JASON-RANHEIM
580 Parrott St., San Jose, CA 95112

VISA MasterCard

Circle 101 on Reader Service card.

BUSINESS • SCIENCE • EDUCATION

The complete statistical package for only: **$99**

COMM-STAT

A Powerful Tool for Data Analysis and Forecasting

- Easy to use, no commands to memorize (menu-driven)
- Can handle very large data files
- Descriptive Statistics, t-tests (independent and dependent samples) General ANOVA/ANCOVA (up to five factors, Repeated Measures, unbalanced designs, contrasts adjusted means, and more), Correlations, Multiple Regression, (up to 25 predictors), Cross-Tabulation, Significance Tests, 10 Nonparametric Statistics, and more
- User defined (multiple) conditional selection of subsets of cases, various ways of treating missing data
- Flexible Data Editor, easy entering/editing of data, complex (conditional) transformations of variables, and more
- Can also access files created by spreadsheets and data bases
- Barcharts, Scatterplots, clear comprehensive output
- Will run on COMMODORE-64 with 1 disk drive

To order send check or money order for $99 (plus $5.00 shipping and handling) to:

MasterCard VISA

STATSOFT
2631 East 10th Street, Suite 3, Tulsa, OK 74104, (918) 583-4149

ASK ABOUT VERSIONS FOR OTHER COMPUTERS!

Software Discounters of America

S.D. of A

Orders Outside PA—1-800-225-7638
PA Orders — 1-800-223-7784
Customer Service 412-361-5291
Open Saturday

- **Free Shipping on orders over $100 in continental USA**
- **No surcharge for VISA/Mastercard**
- **Your card is not charged until we ship**

ACCESS		The Eidolon (D)	$25	Stunt Flyer (D)	$17
Beach Head 2 (D)	$24	Winter Games (D)	$25	Ultima II (D)	$37
Mach 5 (R)	$23	**GAMESTAR**		Winnie the Pooh (D)	$17
Mach 128 (R)	$33	On-Field Football (D)	$19	**SIMON & SCHUSTER**	
ACCOLADE		On-Track Racing (D)	$17	Great Int'l Airplane Construction Kit (D)	$19
Dambusters (D)	$19	Star-Rank Boxing (D)	$19	Spy Hunter (R)	$29
Fight Night (D)	$19	**HAYDEN**		Star Trek-The Kobiashi Alternative (D)	$26
Hardball (D)	$19	Sargon III (D)	$33	Typing Tutor III (D)	$26
ACTIVISION		**INFOCOM**		**SPINNAKER**	
Alter Ego (D)	Call	Cut Throats (D)	$23	Alphabet Zoo (R)	$17
Borrowed Time (D)	$19	Enchanter (D)	$23	Homework Helper	Call
Fast Tracks: Slot Car Const. Kit (D)	$21	Hitchhiker's Guide to the Galaxy (D)	$23	Kindercomp (R)	$17
Gary Kitchen's Gamemaker (D)	$25	Planetfall (D)	$23	Story Machine (R)	$17
Hacker (D)	$19	Spellbreaker (D)	$29	**SPRINGBOARD**	
Little Computer People (D)	$21	Wishbringer (D)	$23	Easy as ABC (D)	$23
Road Race (D)	$19	Zork I (D)	$23	Newsroom (D)	$33
AMERICAN EDUCATIONAL		Zork II or III (D)	$25	Newsroom Clip Art Vol. 1 (D)	$19
All Titles Available	Call	**KOALA**		Stickers (D)	$23
ARTWORX		Muppet Learning Keys (D)	$34.95	**SSI**	
Bridge 4.0 (D)	$16	Touch Tablet w/ Painter (D)	$39.95	Battalion Commander (D)	$25
Data Disk #1 female	$16	Koala Printer (D)	$16	Colonial Conquest (D)	$25
Data Disk #2 male	$16	**LEARNING COMPANY**		Computer Ambush(D)	$37
Data Disk #3 female	$16	All Titles Available	Call	Computer QB (D)	$25
International Hockey (D)	$19	**MICROLEAGUE**		Field of Fire (D)	$25
Strip Poker (D)	$21	Baseball (D)	$25	Gemstone Warrior (D)	$23
AVALON HILL		General Manager (D)	$25	Kampfgruppe (D)	$37
Super Bowl Sunday (D)	$21	**MICROPROSE**		NAM (D)	Call
Tournament Golf (D)	$19	Acro Jet: Advanced Flight Simulator(D)	$23	Phantasie (D)	$25
BATTERIES INCLUDED		Crusade in Europe (D)	$25	Questron (D)	$25
Consultant 64 or 128	$39	F-15 Strike Eagle (D)	$21	Rings of Zilfin (D)	Call
Paperclip 64 or 128	$39	Kennedy Approach(D)	$21	Wings of War (D)	$25
Paperclip w/Spell 64 or 128	$49	Silent Service (D)	$23	Wizards Crown (D)	Call
BRODERBUND		**MINDSCAPE**		**SUBLOGIC**	
Bank St. Series	Call	Bank St. Music Writer (D)	$26	Flight Simulator II(D)	$32
Karateka (D)	$19	Color Me: The Computer Coloring Kit (D)	$19	Jet (D)	$29
Print Shop (D)	$27	Dolphin's Rune (D)	$19	Scenery Disks	Call
Print Shop Graphics Library #1 (D)	$16	Halley Project (D)	$26	**SYNAPSE**	
Print Shop Graphics Library #2 (D)	$16	Lords of Midnight (D)	$19	Brimstone (D)	$25
Print Shop Graphics Library #3 (D)	$16	Perfect Score SAT (D)	$44	Essex (D)	$25
Spelunker (D)	$19	Shadowfire (D)	$19	**TELARIUM**	
Stealth (D)	$19	**MISC.**		Amazon (D)	$21
Whistler's Brother (D)	$19	Book of Adv. Games II	$16	Fahrenheit 451 (D)	$21
CBS		CSM 1541 Alignment Kit (D)	$29	Perry Mason (D)	$21
Mastering the SAT(D)	$47	Copy II (D)	$23	Rendezvous w/Rama (D)	$21
Success w/Algebra	Call	Diskey (D)	$33	**TIMEWORKS**	
Success w/Math	Call	Firebird Elite (D)	$21	Data Manager II (D)	$33
DAVIDSON		Karate Champ (D)	$23	Data Manager (128)	$43
Math Blaster (D)	$33	Kung Fu Master (D)	$23	Evelyn Wood Dynamic Reader (D)	$33
Spell It (D)	$33	Printmaster (D)	$23	Sideways (D)	$19
Word Attack (D)	$33	Snapshot 64 (R)	Call	Swiftax (D)	$33
ELECTRONIC ARTS		Spy vs. Spy II(D)	$19	Swiftcalc/ Sideways (128)	$43
Adv. Const. Set(D)		Superbase 64 (D)	$47	Sylvia Porter's Personal Financial Planner(D)	$39
Archon 2: Adept (D)		Superbase 128	$59	Wordwriter w/ 85,000 Speller (D)	$33
Carriers at War (D)		Vizastar 128	Call	Wordwriter w/85,000 Speller (128)	$43
Europe Ablaze (D)		Vizawrite 128	Call	**WINDHAM CLASSICS**	
Heart of Africa (D)		**ORIGIN**		Treasure Island (D)	$17
Mail Order Monsters (D)		Ultima 3 (D)	$34	Wizard of Oz (D)	$17
Movie Maker (D)		Ultima 4 (D)	$39	**ACCESSORIES**	
Music Const. Set (D)		**PROFESSIONAL**		Bonus SS, DD	Cheap
One-on-One (D)		Fleet System 2 64 or 128	$39	Compuserve Starter Kit (5 hrs.)	$19
Pinball Const. Set (D)		**RANDOM HOUSE**		Datashare Printer Int. w/Graphics	$39.95
Racing Dest. Set (D)		Charlie Brown's ABC'S (D)	$19	Disk Case (Holds 50)	$9
Reach for Stars II (D)		Charlie Brown's 1, 2, 3'S (D)	$19	Dow Jones News Retrieval Kit(5 hrs.)	$16
Seven Cities Gold (D)		**SCARBOROUGH**		Total Auto Answer/ Auto Dial Modem w/Software	$29.95
Skyfox (D)		Build A Book (D)	$17	Sakata 13" Color Composite Monitor for C64	$149
Prices too low to advertise!!	Call	Mastertype (D)	$23	Wico Joysticks	Call
EPYX		Net Worth (D)	$44		
Fast Load (R)	$23	**SIERRA**			
Koronis Rift (D)	$25	Championship Boxing (D)	$17		
Multiplan 64 or 128	$39	Donald Duck's Playground (D)	$17		
Programmer's Basic Tool Kit 64 or 128	$29	Mickey's Space Adventure (D)	$17		
Summer Games II (D)	$25				

P.O. BOX 278—DEPT. RN—WILDWOOD, PA 15091

***Ordering and Terms:** Orders with cashier check or money order shipped immediately. Personal/company checks, allow 3 weeks clearance. No C.O.D.'s. **Shipping: Continental U.S.A.**—Orders under $100 add $3; **free shipping on orders over $100.** PA residents add 6% sales tax. **AK, HI, FPO-APO**—add $5 on all orders. Sorry—no International orders. Defective merchandise will be replaced with same merchandise. Other returns subject to a 15% restocking charge—NO CREDITS! Return must have authorization number (412) 361-5291. Prices subject to change without notice.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

By JIM STRASMA

Do you have a problem or question about your Commodore computer? Commodore Clinic can help. Just send your question on a postcard *(limit of one question per card) to:*

Jim Strasma
Commodore Clinic
PO Box 6100
Macomb, IL 61455-6100

Queries are answered only through this column, and, due to the volume of mail, only questions likely to appeal to the majority of our readers can be published.

UPDATES

Update: In the September 1985 issue, Philip Jones asked about artificial intelligence (AI) programming. I'd like to send him and any other readers seriously interested in AI programming a copy of the AI Factsheet I've developed; they need only send me a self-addressed stamped #10 envelope with their request. I am not a vendor, but a 64 user who's serious about developing practical artificial intelligence applications.

Eloisa Yeargain
PO Box 241807
Los Angeles, CA 90024

A: Thanks for the offer and the fact sheet. It is helpful, and I'm sure you'll hear from many readers. AI enthusiasts may also want to investigate Abacus Software's new program, XPER, a serious attempt to squeeze an expert system into the 64. I haven't had it long, but am impressed by what it achieves in what is, by AI standards, a very small computer.

HARDWARE

***Q:** My question concerns static discharge damage to MOS IC chips. Some sources warn of dire consequences if your grip changes by as much as a millimeter while moving chips. You and others talk casually of replacing ROM and processor chips and I/O switching. What amount of caution do you recommend?*

Bruce Fellows
Anaheim, CA

A: This time of year (with heating systems operating full force and indoor air very dry), take every precaution against letting static shocks affect your computer. Any shock you can feel is enough to fry an MOS IC chip. These chips are designed to operate at about five volts, and a typical static shock may reach several thousand volts.

To reduce static, remove nearby nylon rugs, humidify the area, and touch a grounded object, such as a radiator, before touching chips. Also, don't touch the legs of the chips directly, and keep the chips seated in a "bug rug" (pad of conductive foam) whenever they are out of the computer.

Although there is truth to the dire warnings about what could happen to a chip when it is handled, I've never actually lost a chip that way, not even an ultra-sensitive CMOS chip.

***Q:** Is it all right to shut off your computer when the disk drive is booting up a program?*

Tim Brend
Auburn, IA

A: Usually, but not always. Disk drives are used for two main chores: reading and writing information. To safely shut off your computer during the start-up operations of a program, you must know which of the two chores the disk is performing when you shut it off. Turning off your computer while your drive is reading a disk harms nothing; turning it off while your drive is writing to a disk could result in a ruined file, which in turn could mean an unusable program. Fortunately, very few programs attempt to write information to the disk during their start-up operations.

Also, when you shut off the computer, do not shut off the disk unit until you have first removed the program disk from the drive. Turning off most Commodore disk drives with a disk inserted in the slot and the access door closed alters the data under the read/write head at that moment, often rendering the disk useless until it is reformatted.

***Q:** I am planning to buy a C-128. However, color monitors and even TVs bother my eyes. I want to know what kinds of monochrome monitors can hold the C-128's 80-column screen.*

Antonio Gomez
Mexicali, Mexico

A: Only two kinds of monochrome monitors are commonly sold in the U.S. these days. One is usable only by IBM PC and PC-compatible computers with special monochrome adapter cards. This is recognizable by its video connector, which has eight pins, in two rows of four. The other

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

kind of monochrome monitor (sometimes called a B&W monitor) has an RCA phono connector (a single pin surrounded by a shield) and works fine on the VIC, C-64 and C-128, as well as on Apples, IBMs with color cards and most other computers.

To use this type of monitor with the C-128 in 80-column mode, you must obtain a suitable cable. Both Commodore and other suppliers have already announced special cables for this purpose; some contain an extra connector and switch, so you can use the cable in both 40- and 80-column modes without changing any plugs.

Q: I have a Plus/4 and a printer interface with a power connector that is supposed to plug into the cassette port on a 64. There's no way it will fit into the Plus/4's round cassette port. Can I cut this wire and replace plugs?

Pete Baron
APO NY

A: Yes, but that's not necessary. Just supply +5 volts to the interface another way. Most printers supply the proper voltage on pin 18 of the Centronics parallel connector, into which you plug a cable from the interface. Most likely, the corresponding wire in that cable already brings the necessary voltage into the interface and merely needs to be connected to the same point as the unusable power supply wire.

Q: Is it possible that Commodore has left an empty ROM socket in the 128 on purpose?

Tom Moore
Birmingham, AL

A: It's not only possible; that's just what happened. On both the Plus/4 and C-128, there is an application ROM socket on the main circuit board. On the Plus/4, the socket normally contains the factory-supplied "3+1" program, but other ROMs designed for use in Plus/4 cartridges can be put in that same socket. Although the socket is initially empty on the C-128, it is likewise addressed to the same part of memory as ROM cartridges, and it could easily hold a program ROM from a suitable C-128 cartridge.

PROGRAMMING

Q: I am writing a program in which I want to use the Get# command to retrieve both program files and datafiles from the Datassette. Datafiles come across fine, but the 64 doesn't like reading program files as if they were datafiles. After retrieving the first buffer full of information, it looks for the next file. Is there any way to force the 64 to continue reading the program file?

Will Johns
Deerfield, IL

A: Not with Basic's GET# command. The problem is that programs and data are stored very differently on tape. Datafiles are stored in neat 191-character blocks, separated by two-second inter-record gaps, which allow the tape to halt and restart without losing data. Program files, on the other hand, are stored as single blocks (recorded twice in succession) and loaded directly into Basic's program area, rather than into a buffer.

Your computer can read the first 191 characters of a program into the file buffer as though the program were a datafile. However, while that data is being processed, Basic halts the tape. When the tape restarts, Basic looks for another block of data to read, but does not find it until the start of the next program.

The solution is to rewrite your program in machine language and store it in an out-of-the-way part of memory, starting at $C000, for instance. You may then treat all of Basic's workspace as a huge buffer and read all of the program in at once, thanks to the greater speed of machine language.

Q: If a filename listed in a directory appears with an asterisk immediately following it, what is the proper procedure to take?

Charles Fisher
Lockport, IL

A: Any disk with a directory entry so marked has an improperly closed file and is in danger of losing information. If the marked file is not important, the disk should be immediately validated, with either the C-128's or the Plus/4's Collect command or the

Circle 60 on Reader Service card.

DELUXE RS232 INTERFACE

Whether you want to communicate with a modem, serial printer, another computer, or any other RS232 device, the Deluxe RS232 Interface is the correct choice. Any comparison will show that it is best Commodore compatible RS232 interface available for any price! The Deluxe RS232 Interface is the culmination of 3 years of working with Commodore users who need an RS232 Interface. It supports all standard RS232 connections (2-8, 12, 20, 22) including Ring Detect and Hi Speed Indicator. Four switches in the RS232 cover allow you to set the unit for virtually any standard RS232 configuration. The unit includes a 3 foot cable with either a male or female DB25 connector (specify which). RS232 plus and minus voltages. Users Manual includes a type-in Basic terminal program, basic program transfer routine, and other examples. Add $2.00 for shipping. Suggested retail **$49.95**

PRINTMASTER/S (RS232)

This is an RS232 version of our famous Printmaster/+G. It is a serial bus printer interface providing full RS232 signals for an RS232 printer. Supports pins 2-8, 20. Select 300, 600, 1200, 2400, word, and parity. Supports dot graphics and characters on RS232 versions of Epson, Oki, Gorilla, NEC, and more. Includes 3 ft cable with a male or female connector (specify which). Cassette or external power. Add $2.50 for shipping. Suggested retail **$119.95**

100% 128 COMPATIBLE
See your local dealer or
CALL (206) 236-2983

30 day money back guarantee on all products. Visa and MC welcome. Write to us if you wish to be on a special marketing survey mailing list.

DEALERS CALL US!

Omnitronix
P.O. BOX 43-DEPT. 9-MERCER IS., WA 98040

Circle 220 on Reader Service card.

And your Earls and Viscounts. If you've got royal ancestors, we have the noble software that can help you trace them down.

Family Roots and your Apple, IBM, Commodore, Kaypro*, and many others, offer individual and group sheets, charts, name indices, general search and text capabilities. Adapts to most disk drives, printers, and screens. You get more utility programs, plus lots of personal control. A comprehensive (new) manual is included.

Put up your dukes!

All for just $185.

Write or call today for more information and a free brochure.

Quinsept, Inc.
P.O. Box 216
Lexington, MA 02173
(617) 641-2930

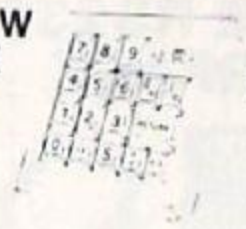
American Express, Visa, and MasterCard gladly accepted.

Family Roots

* Trademarks for Apple Computer Inc., International Business Machines, CBM, Inc. and Digital Research.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

Circle 138 on Reader Service card.



NIMBLE NUMBERS II

KEYPAD for the COMMODORE 64*

* Works 100% with ALL software
* Safe and Easy to Install!
* Quality action keys as good as the ones on your C64!
* an affordable $65.00 CDN

ZIPPITY DATA

PRINTER BUFFER

64K expandable to 256 K

* for almost ANY Popular computer and printer combination using CENTRONICS communication!!!!

FOR EXAMPLE

COMMODORE 128	EPSON
COMMODORE 64	GEMINI
AMIGA	ROLAND

* Affordable CANADIAN prices!
  64 K Buffer — $195.00 CDN
  256 K Buffer — $255.00 CDN
  Expansion to 256 K — — $100.00 CDN + 64 K Buffer
* 90 Day warranty on manufacture

SERENDIPITY MICRO TECHNOLOGIES
P.O. BOX 1944, Saskatoon, Sask., Canada S7K 3S5
Please Add 10% Shipping charges to all orders.
*Registered trademark of Commodore Business Machines
Please remit in CDN funds by postal money order for prompt shipping.

Circle 144 on Reader Service card.

CREATE GRAPHICS! ANIMATION! SOUND! MUSIC!

TECHNIQUE! Easy, direct guide to programming C-64 graphics, animation, sound and music. Use Hi-Res and sprites in your programs. Machine language music program, 12 songs and arcade game included on this $29.95 disk.

BECOME AN EXPERT PROGRAMMER!

BASICally SIMPLE, Quick, easy way to master Basic programming. Use all C-64 commands and operators. Disk is also handy reference guide. Only $20

SPECIAL OFFER! Order BASICally SIMPLE and TECHNIQUE! together for only $39.95. Send check or money order to:

Free Spirit Software Inc.
5836 So. Mozart
Chicago, Illinois 60629

DUST COVERS! High quality slate gray vinyl dust covers for C-64, C-128, 1541 and 1571. Only $6.50 each.

ALL PRICES INCLUDE SHIPPING AND HANDLING. Send for free information on other Free Spirit software and accessories.

http://www.oldgamesitalia.net/

Commodore Clinic

VIC-20's and C-64's Disk Validate (v0) command. If the file contains vital information, it may be read first, using the modify option (,s,m) of the disk file Open command.

In any case, do not write any new programs or files on that disk until you've successfully validated it. If the validation fails, or if the number of blocks shown as free at the end of the directory changes after the validation, the only safe procedure is to copy (not back up) all programs and files on the disk to another disk, and then to reformat the original.

REPAIRS

Q: I recently lost the color on my 64 and was told the color chip might be the cause. I would like your opinion as to whether or not I should send my computer to Commodore for repair.

Doug Counce
Tupelo, MS

A: A faulty VIC chip is only one of many possible reasons for loss of color. Others include a faulty cable, an unplugged chroma connector, slight mistuning of your channel on a color TV, and maladjusted color settings on a TV or monitor. Before seeking repair, try another TV or monitor and another video cable. If these work, your 64 is not at fault.

The next step is to take your 64 to an authorized Commodore service center. These centers should be well-equipped to adjust or replace parts that could affect color; some will do this while you wait.

SOFTWARE

Q: I use Nevada Fortran with my C-64 and a CP/M cartridge. To my surprise, the Fortran manual is geared to the experienced Fortran programmer already familiar with CP/M. Would you please assist me in obtaining a tutorial book on CP/M for the Commodore 64, with respect to Fortran applications?

Reynaldo Reyes, Sr.
South Gate, CA

A: First, CP/M and Fortran are entirely different from each other. Fortran is a very old, but still popular, programming language, of which Basic is a somewhat modified subset. CP/M, on the other hand, is an operating system, helping the computer run whatever language you like with equal ease. Thus, you aren't likely to find a single text that teaches both Fortran and CP/M. On the other hand, most bookstores carry books that deal with each subject separately.

Of the CP/M books, my personal favorite is still Thom Hogan's *Osborne CP/M User Guide*, from Osborne/McGraw-Hill. My favorite Fortran book is the *Fortran Coloring Book*, although nearly all textbook publishers offer good introductory Fortran texts for classroom use, available from the nearest university bookstore.

Q: Please advise how I can obtain the second edition of the 1541 manual.

Lewis Hegyi
Cinnaminson, NJ

A: It is available directly from Commodore as P/N 1540031-03 for $5 in the U.S. The address is Customer Support Department, Commodore Business Machines, 1200 Wilson Drive, West Chester, PA 19380.

Q: In a recent column, you mentioned that the Script/Plus cartridge ROM could be placed inside the Plus/4. Since it makes me nervous to have the cartridge hanging out of the back of my machine, could you publish more specific instructions as to which ROMs in the Plus/4 have to be replaced by the cartridge ROMs?

By the way, I bought the Plus/4 and Script/Plus at a local discount store for less than $100. At that price, having a dedicated word processor that is compatible with my C-64 peripherals is definitely worth it! I hope RUN *will continue to support the Plus/4.*

Craig Ede
Minneapolis, MN

A: Unfortunately, my Plus/4 was a prototype, so yours may differ, but the ROM you want to swap will be the one containing the "3 + 1" application program. It may be labeled and may be the only ROM in a socket. If not, it should be at one end of a row of ROMs; removing it (with the power off, of course) should not af-

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

fect the operation of the computer (except that "3+1" will no longer be immediately available).

It may be wise to open your Script/Plus cartridge first, to make sure it contains a single ROM and to help you recognize the similar "3+1" chip. There may be a screw in the middle of the cartridge shell, under the label, and several flanges to loosen around the edges when opening the cartridge. Take your time, so as not to break the shell.

Use a small, flat, pointed non-metal object to pry out the "3+1" and to remove the Script/Plus ROM. If the Script/Plus ROM is soldered in, you will need a desoldering iron as well, and may wish to have your dealer handle the rest of the swap. When you make the swap, be sure the Script/Plus chip ends up facing the same direction as the "3+1" ROM did, and avoid all static shocks. You may also want to install the "3+1" ROM in the Script/Plus cartridge, so you can still use it if needed.

***Q:** I am thinking about buying a Fast Load cartridge from Epyx. I want to know if it would be all right for my 1541 drive. I am worried that my drive might overheat or break from all of the pressure on it.*

John Bumstead
Upland, CA

A: In general, Fast Load and other similar speed-up cartridges work well and won't hurt your disk drive. However, there are two possible problems. One is that the power supply in some 64s is barely adequate, and the added power consumed by even a cartridge like Fast Load could send a marginal power supply over the edge to failure after extended use. If that happens, upgrade the power supply, and it won't happen again.

The other problem readers are reporting is that Fast Load is not entirely compatible with all programs that use the disk, particularly some commercial programs that write relative datafiles. If you attempt to use Fast Load with such programs, you may lose all the data on that disk without warning. Therefore, I suggest using Fast Load and similar speed-up programs to quickly load programs, but not to write programs or files back to the disk. R

Circle 66 on Reader Service card.

FREE SHIPPING*

SOFTWARE DIMENSIONS

WE WILL MATCH ANY PRICE ADVERTISED IN THIS ISSUE

Calls originating outside Colorado
1-800-826-2447
Pacific time zone may call 6 am-8 pm

Calls originating inside Colorado
1-800-222-0697
Eastern time zone may call 9 am-11 pm

7830-A North Academy Blvd., Colorado Springs, CO 80918

COMMODORE

BUSINESS	
Superbase 64	$51.96
Back To Basic GL	61.75
Back To Basic GL, AR, AP	126.75
Data Manager II	32.46
Swiftcalc With Sideways	45.46
Electronic Checkbook	16.21
Silvia Porter Financial Planner	38.96
Better Working Spreadsheet	32.46
EDUCATION	
Body Transparent	$29.21
Basket Bounce	19.46
Blazing Paddles	22.72
Charlie Brown's ABC's	19.46
Build A Book	25.96
Kids On Keys	19.46
Kidwriter	17.52
Mastertype	25.96
Rhymes & Riddles	13.62
SAT Algebra	25.96
SAT Practice Tests	12.96
SAT Vocabulary	25.96
Snooper Troops #1	17.52
Snooper Troops #2	17.52
Spell It	32.46
Spellagraph	25.96
Spellakazam	19.46
Word Challenger	12.96
Reader Rabbit	25.96
Moptown Parade	25.96
Math Blaster	32.46
Word Attack	32.46
Stickybear ABC's	19.46
Stickybear Numbers	19.46
Stickybear Opposites	19.46
Typing Tutor III	25.96
Creature Creator	19.46
Grammer Examiner	29.21
Mission Algebra	29.21
Spellicopter	25.96
Addition Magician	22.71
Speed Reader II	45.47
Peanuts Maze Marathon	19.46
Snoopy's Writer	25.96
Alphabet Zoo	19.46
Facemaker	13.62
Kindercomp	13.62
Story Machine	16.22
Trains	17.52
Agent U.S.A.	19.47
Turtle Tracks	19.47
Stickybear Bop	19.47
Stickybear Spellgrabbler	19.47
GAMES	
Cutthroats	$25.96
Deadline	32.47
Donald Duck's Playground	25.96
Enchanter	22.72
Expedition Amazon	19.47
F-15 Strike Eagle	22.72
Flight Simulator II	32.47
Ghostbusters	22.72
Adventure Construction Set	25.96
Hitchhiker's Guide	22.72
Realm of Impossibility	16.22
Infidel	29.22
Kennedy Approach	22.72
Lode Runner	22.72
Mickey's Space Adventure	25.96
One-On-One	25.96
Pinball Construction Set	16.22
Sorcerer	25.96
Skyfox	21.42
Stellar 7	19.47
Suspect	29.22
Tycoon	19.47
Ultima II	38.97
Ultima III	38.97
Ultima IV	38.97
Winnie The Pooh	25.96
Wishbringer	22.72
Witness	22.72
Zork I	25.96
Zork II	25.96
Zork III	25.96
Planetfall	22.73
Seastalker	22.72
Suspended	29.22
Archon	16.22
Archon II Adept	21.42
Carriers At War	32.47
Europe Ablaze	32.47
Mail Order Monster	21.42
Music Constructor Set	16.22
Racing Destruction	21.42
Reach For The Stars	29.22
Seven Cities of Gold	21.42
Software Golden Oldies	19.47
The Eidolon	26.00
Impossible Mission	22.75
Jet Combat Simulator	19.47
Rescue On The Fractalus	25.96
Summer Games	26.00
Summer Games II	25.96
Winter Games	26.00
World's Greatest Baseball	22.75
World's Greatest Football	26.00
Arco Jet	22.72
Silent Service	22.72
Solo Flight	22.72
Crusade In Europe	25.96
Decision In The Desert	25.96
Micro League Baseball	25.96
Jet	32.47
Hacker	19.47
Millionaire	19.47
HOME	
Print Shop	$29.22
Graphic Lib. #1	16.22
Graphic Lib. #2	16.22
Bank Street Writer	45.47
Homeword	31.85
Paperclip	38.97
Paperclip With Spellchecker	51.97
Print Shop Paper Pack	12.97
Home Accountant	48.72
SuperScript/128	64.97
PFS File	51.97
Microsoft Multiplan	40.63
Homeword With Speller	45.47
Homeword Speller	22.72
Home Inventory	12.97
Mail List	12.97
PROGRAMMING LANGUAGE	
Logo	48.07
Oxford Pascal	38.97
Simon's Basic	32.47
Kyan Pascal	45.47
UTILITIES	
Copy II 64	23.00
Fast Load	26.00
Magic Paintbrush	22.72
Picture Builder	25.96
Shapes & Fonts	13.00
Graphics Magician	25.96
Master Modem	38.97

IF YOU DON'T SEE THE TITLE YOU WANT, CALL US
Call Toll Free to place your order Monday - Saturday

- Free UPS ground shipping on orders of $40 and up. For two day air shipment add $7. Next day air add $10.
- Free Air Service on Orders Over $300.
- VISA MASTERCARD & AMERICAN EXPRESS
- For C.O.D.'s add 2% - minimal service charge is $3.
- Company & school administration purchase orders accepted upon approval
- Personal & company checks will delay shipping 2 weeks
- Prices & availabilities subject to change without notice.
- We do not guarantee machine compatibility

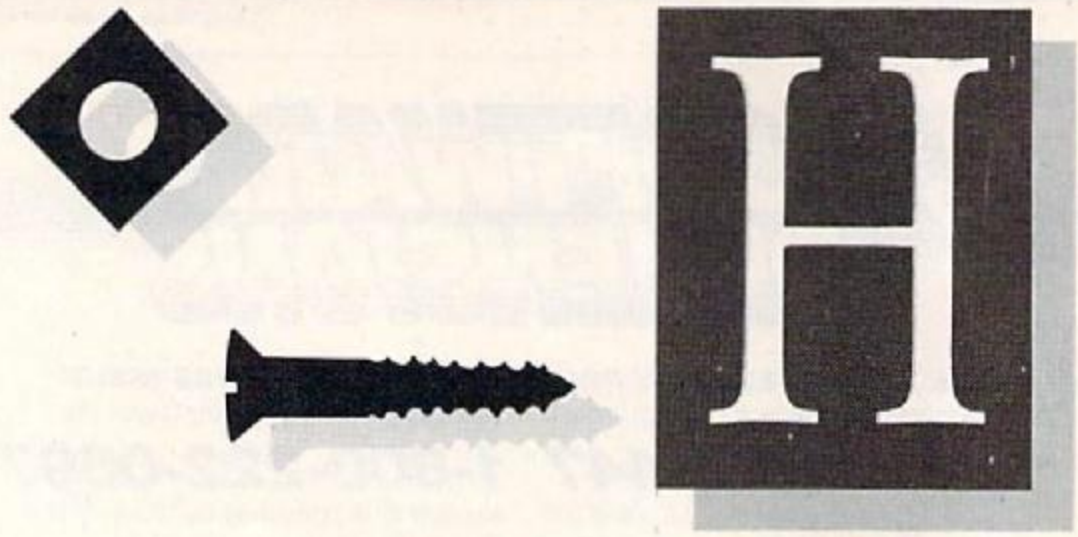
ALL SALES FINAL

Customer Service
(303) 599 5936

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/



Compiled by SUSAN TANONA

Okidata 120

A Commodore-Compatible Dot-Matrix Printer

Trying to select a printer for your Commodore computer can be difficult because of the variety of printers on the market. In many cases, the features, rather than the amount of money you are able to spend, play a large part in determining which printer you select. Okidata's new 120 printer will probably become very popular among Commodore owners, as it is reasonably priced and offers a variety of useful features.

The Okidata 120 is designed exclusively for the Commodore line of computers; a Commodore-compatible interface cable is included. The printer's compact size (14 × 11 × 3.25 inches) allows it to fit easily onto most desks. Three buttons for form control and a fourth button for on- or off-line selection are located on the front of the unit.

The platen has permanently built-in tractor sprockets at each end; this is a clever design, and helpful when using non-perforated forms in the printer. Poor designing, however, has placed the serial cable on the rear of the unit, where it has a tendency to interfere with the flow of the paper. The serial cable's port position encourages use of the bottom form-feed feature that this printer also offers.

The 120 in the printer's name represents the unit's printing speed in the Draft mode. Unfortunately, the printer does not have a near letter-quality capacity. Its three print modes are Standard, Enhanced and Emphasized, and they all produce print of very good quality. This is due in part to the printer's use of a small cartridge-type nylon ribbon, which offers greater longevity than film cartridge ribbons; however, nylon does fade over time.

The Okidata 120 offers three print sizes: pica (10 characters per inch); elite (12 cpi); and fine (17.1 cpi). Double-width characters and the three print modes are accessible when using any of the print sizes. Other useful print features include superscripts and subscripts (used in formulas and equations) and an underlining option that can be used with any print mode or character size.

The Okidata 120 is very software-friendly. However, I experimented with accessing the print features from several very different word processors and found the printer's "Programming Features" to be rather confusing, and quite possibly discouraging, to use. Fortunately, Okidata lists a programmer's guide in the manual, with decimal values for each print feature.

Programs designed for the Commodore 1525 printer will work well on the Okidata 120. Standard graphics programs and screen dump programs designed for the 1525 also perform flawlessly on this printer, so you can utilize all of your favorite 1525 print routines in programs you write for the 120.

Compared with other printers in its price range, the Okidata 120 is among the best. Its contemporary design, ease of use and overall quality are very impressive. I recommend the printer to anyone looking for a fast and reliable dot-matrix printer for his Commodore. *(Okidata, 532 Fellowship Road, Mt. Laurel, NJ 08054. $269.)*

Tim Walsh
***RUN* staff**

MIDI Interface

You and Your Computer Can Make Beautiful Music Together

The MIDI Interface, from Passport Designs, gives your C-64 and C-128 a communications link to MIDI-equipped synthesizers, keyboards and drum machines.

The interface plugs into the cartridge port of your computer and comes supplied with two 5-pin DIN cables that connect the interface to an external musical instrument.

The MIDI-out connector is attached to the MIDI-in port on the musical instrument, and the MIDI-in connector is attached to the MIDI-out port on the same instrument. There is also a Drum Sync connector on the interface, for which you have to purchase a separate MIDI Drum Sync Cable Kit. The Drum Sync allows you to attach an external drum machine, which will play the accompanying drum beat in time with the musical composition.

If you're a musician, the advantage of a MIDI interface is that you can

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

compose songs on one or more piano-like MIDI-equipped keyboards with synchronized percussion accompaniment. These MIDI keyboards offer far more versatility of sound production than single non-MIDI keyboards that are also sold for your computer. As you compose your music, it is fed into the computer, where it can be modified, stored on disk, played back and printed out. I used the CZ-101 synthesizer from Casio (15 Gardner Road, Fairfield, NJ 07006) to try out the MIDI Interface.

The sound interface device (SID) chip within your C-64 and C-128 is a musical voice synthesizer in itself. It can produce three separate, controllable musical voices. The voices can be modified to duplicate a multitude of sounds through a wide variety of software that does not necessarily require an external interface such as MIDI.

With MIDI, however, your control of the SID chip is greatly expanded, and you can more easily create subtle differences in the sounds you are producing. You can also play more than three voices simultaneously. This is accomplished with the external MIDI-equipped instrument, MIDI software and an appropriate external speaker (you can also use the one inside your video monitor).

For example, with the MIDI Music Shop software from Broderbund (17 Paul Drive, San Rafael, CA 94089), you can play up to eight musical parts simultaneously. These eight notes can be distributed over a maximum of four different external instruments. This means you could have four keyboards hooked up, with each one playing a different part. And, using this particular software, you can have each instrument change its voice in the course of one musical score. This provides the flexibility necessary to produce sophisticated musical compositions.

An important feature, available only with a MIDI interface, is the ability to play notes on the external keyboard and have them fed into the computer and displayed on-screen on a musical staff. This makes musical composition more natural for musicians, especially those who have learned to play the piano.

The MIDI Music Shop software lets you play a song on your MIDI keyboard while the program automatically reads your notes and places them onto a computerized staff. The limitation is that you have to set the timing and each note's duration manually.

You can also compose music without a MIDI interface, of course, using the computer's keyboard or a joystick. With this method, you have to place each note on the staff and designate its value and the music's timing.

Passport Designs states that any MIDI-equipped device can be addressed and controlled with the MIDI Interface, as long as you have the proper software. It has already been adopted by many music software companies, so you will not be limited in your software choices. Broderbund and QRS Music Rolls (1026 Niagara St., Buffalo, NY 14213) are two companies writing software for use with this interface.

MIDI is not, however, limited to use with commercial software. The manual that comes with the device describes how to get started in programming the interface on your own. This is not something for beginners in computer programming to try. Although you can program the interface in Basic, it is recommended that you do any serious programming in assembly language.

If you're a student, teacher or home user who is likewise interested in composing, playing, saving, editing and printing out multivoiced music—but with fewer voices and more manual labor—you would probably do better to invest in the $45 Music Shop (an excellent musical composition and editing program) and a $6 joystick.

However, if you're a serious musician, Passport's MIDI interface is probably one of your best choices for use with the C-64 and C-128. If you have the money to invest in one or more MIDI instruments (the Casio CZ-101 costs about $500) and in the MIDI software and interface, this application for your computer is definitely worthwhile. *(Passport Designs, 625 Miramontes St., Half Moon Bay, CA 94019. C-64, C-128/$149.)*

Margaret Morabito
***RUN* staff**

Circle 215 on Reader Service card.

C-64
GRAPHICS

FOR USE WITH PRINT SHOP™ PROGRAM
(Print Shop is a trademark of Broderbund Software™)

THEME GRAPHICS DISK
Logo Fixin's
Military
Baseball
Restaurant Fare
General Subjects
$10.95

GRAPHIC DISK AND MORE!
120 Original Graphics
60 Greeting Card Verses
Hints/Aids/Examples
Graphics Making Tool
$11.95 FREE

Add $2.00 for postage & handling
Calif. residents add 6.5% sales tax
☐ THEME $10.95
☐ MORE! $14.95
NAME _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____
SEND CHECK OR M.O. TO: C.O.D.

RJ softshop
4102 E. 7th ST., STE. 207C
LONG BEACH, CA. 90804
Phone (213) 434-1580

Circle 127 on Reader Service card.

C64, VIC20 POWER SUPPLY
PS01 $29.95
MODEM FOR C64 $37.95
AUTO DIAL, AUTO ANSWER
300 BAUD UNLOAD & DOWN LOAD
DATA SETTE FOR C64, C128, VIC20
$19.95 Special
Surge Protected & Noise Filtered Power Center.
(P001) $59.95
P001
C64, C128 CONTROLED R/C TANK
Special $99.00
Surge Protected Power Outlets
(P002) $15.95
Graphic Mouse (GM01) $69.95
Dual 5.25" Disk Drive for C64
DD04 $339.95
C64 COVERS
•CUSTOM FIT• •LIGHT TAN•
•LIFETIME WARRANTY•
•WASHABLE•
VIC-20/C-64 COMPUTER
C-1541 DISK DRIVE
C-1530 DATASETTE
C-1525 PRINTER
MPS-801 PRINTER
GEMINI-10/10X PRINTER
EPSON FX80 PRINTER
1701/1702 MONITOR
* ALL COVERS *
* $6.95 each *
ALSO SUPPLY IBM COMPATIBLE MONEY SAVER
IBM XT SYSTEM $ 749.00 640K, 2 DRIVES
IBM AT SYSTEM $ 1957.00 1.2 MEG DRIVE, ETC.
SHIPPING EXTRA.
MAXTRON 1825A DURFEE AVE. S EL MONTE CA 91733
(818) 350-5707 VISA & MASTERCARD ACCEPTED
DEALERS WELCOMED

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Super Graphix Printer Interface

A Feature-Packed Interface for Your Commodore

The printer interface in the Commodore environment must perform many tasks, such as emulating a Commodore printer and, at the same time, allowing you access to your printer's special features.

The Super Graphix Printer Interface, from Xetec, can successfully perform these and many other duties. When driving a suitable dot-matrix printer, the Super Graphix will provide total emulation of the 1525 printer, including reproduction of all the special Commodore graphics characters.

Finding a compatible printer should not be difficult. Three of the eight small switches on the front of the interface control printer selection. This gives you eight possible choices, covering all of the major printer brands. These switches also let you choose device number, operating mode and type font.

The Super Graphix goes several steps beyond simple emulation of the Commodore printers. Basic programmers will appreciate the Special Listing mode, which translates all of the Commodore embedded control codes into easy-to-read mnemonics. Even graphics characters, which are generated by holding down the Commodore or shift key, are listed by their respective keystroke sequences.

The most impressive features of the Super Graphix interface are its built-in 8K RAM buffer and the near letter-quality print font. As well as being a text storage area, the buffer enables the interface to print text in any of three high-density fonts. The first of these, the near letter-quality font, is built into the interface and is available by simply setting a pair of the switches on the interface. The remaining two fonts are downloaded to the interface from your computer.

A utility disk is supplied with Super Graphix. This contains 21 fonts that you can download, as well as a support program to help you create your own. Once downloaded, the fonts can be disconnected only by an instruction sent over the interface's command channel (similar to the disk drive command channel). In fact, turning off the computer or resetting the computer or the interface will not affect the fonts, as they can remain in RAM for up to 15 minutes without any source of external power.

Two of the fonts included on the disk—italic and script—require your printer to have very high dot densities. Not all dot-matrix printers are capable of the required density. Printers that support all of Super Graphix's features are the Epson, Gemini and Panasonic machines (and others that function like these).

The Super Graphix provides a simple way to do a screen dump (both character and bit-map) from your computer. Character dumps are supported for the VIC-20, C-64 and C-128. An 8K bit-map dump is available for the C-64 and C-128 graphics screens. Simply open a channel to the interface with the appropriate secondary address; Peek the data (1K or 8K) from the proper section of memory; and send it to the interface, one byte at a time. The Super Graphix will take care of the rest.

The interface is packaged in what appears to be a VIC-20 cartridge case. A reset button is provided to abort the printing of text that may be in the 8K buffer.

The Super Graphix Printer Interface is a high-quality device. If you are presently considering the purchase of a new printer, this interface definitely merits your consideration. *(Xetec, 3010 Arnold Road, Salina, KS 67401. VIC, C-64, C-128/$99.95.)*

Morton Kevelson
Brooklyn, NY

Circle 181 on Reader Service card.

Spend a week on campus this summer learning and saturating yourself with information from Jim Butterfield (Commodore wizard), Len Lindsay (COMAL advocate), Dick Immers (the "Disk Doctor") and other Commodore experts!

Attend the fourth annual

Lincoln College

Commodore Computer Camp

July 6 - July 11, 1986

Lincoln College
Lincoln, Illinois

Informational brochures and registration forms may be obtained by contacting:

Special Programs Office
Lincoln College
Lincoln, IL 62656
(217) 732-3155

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

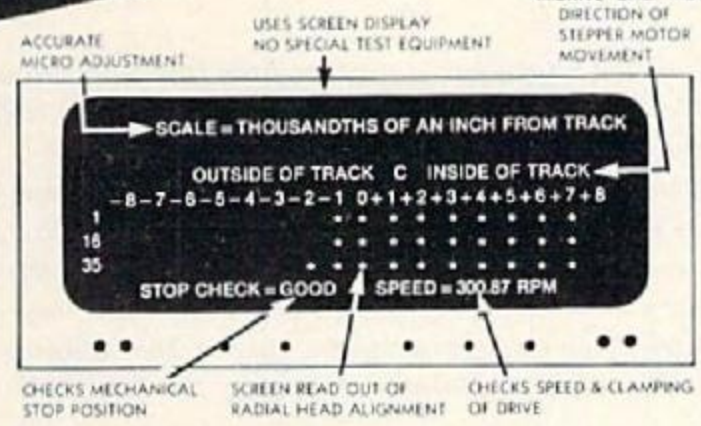
Circle

Circle 270 on Reader Service card.

1541 PHYSICAL EXAM

NEW 1571 PHYSICAL EXAM
4040 PHYSICAL EXAM
8050 PHYSICAL EXAM
8250 PHYSICAL EXAM

SEE REVIEWS IN:
RUN. 6/85 P. 14
AHOY. 4/85 P. 32
MIDNITE GAZ. #23 P. 78


ACCURATE MICRO ADJUSTMENT
USES SCREEN DISPLAY NO SPECIAL TEST EQUIPMENT
DIRECTION OF STEPPER MOTOR MOVEMENT
SCALE = THOUSANDTHS OF AN INCH FROM TRACK
OUTSIDE OF TRACK C INSIDE OF TRACK
-8-7-6-5-4-3-2-1 0+1+2+3+4+5+6+7+8
1
18
35
STOP CHECK = GOOD
SPEED = 300.87 RPM
CHECKS MECHANICAL STOP POSITION
SCREEN READ OUT OF RADIAL HEAD ALIGNMENT
CHECKS SPEED & CLAMPING OF DRIVE

PACKAGE INCLUDES:
- TRUE DIGITAL ALIGNMENT DISK WITH OFFSET TRACKS
- QUIET DRIVE STOPS TO REDUCE THE NEED FOR CONTINUED REALIGNMENT ON ALPS AND NEUTRONICS DRIVES.

PHYSICAL EXAM $39.95 (EACH)
EXTRA STOPS $ 4.95 (EACH) + SHIP.
PLEASE SPECIFY WHICH DRIVE.

CARDINAL SOFTWARE
13646 JEFF DAVIS HWY. WOODBRIDGE, VA 22191
INFO CALL: (703) 491-6502
IN CANADA: APPIN MICRO 1283 PHARMACY AVE SCARBOROUGH, ONTARIO M1R 2J1 (416) 443-0843

800 762-5645

Circle 108 on Reader Service card.

CABLE WARE

KN-128-1	80 Column monochrome cable (RGB) for C-128	$14.95
KN-130-5-5	Composite monitor cable (5 pin din—5 Ft.)	$12.95
KN-135-5-8	Composite monitor cable (8 pin din—5 Ft.)	$12.95
KN-140-6	Commodore Serial Interface cable (6 Ft.)	$ 7.95
KN-140-9	Commodore Serial Interface cable (9 Ft.)	$ 9.95
KN-200-5	Standard RGB/RGB monitor cable (9 pin D-sub to 9 pin D-sub wired straight through (3 Ft.)	$19.95
KN-250-1-10	Standard RS-232 Interface cable (25 pin D-sub to 25 pin D-sub Male to Male straight (10 Ft.)	$29.95

* All cables can be custom made to your specifications. . . .
* All cables are warranteed for LIFE. . . .

DISK WARE

Single Sided/Double Density
W/Tyvec Sleeves, Write Protects
Blank Labels, and the KNIGHT Warranty . . . . . $8.99 per ten pack

Double Sided/Double Density
W/Tyvec Sleeves, Write Protects,
Blank Labels, and the KNIGHT
Warranty . . . . . $9.99 per ten pack

* Each cable is HANDMADE
* Individually Tested
* Warranteed Forever
* Hundreds of Dealers Nationwide
* Call Today For Selected Dealer Near You

KNIGHT WARRANTY
(Lifetime)

KNIGHT SOFTWARE LTD. will replace any defective KNIGHT product for any reason, for LIFE. That's Right! For LIFE!!! If at any time during the life of your KNIGHT product, it fails to perform due to normal wear or due to any accident, KNIGHT SOFTWARE LTD. will replace the product free. Just send us the remaining pieces of the product, the warranty card, and the sales slip from place of purchase and product will be promptly replaced.

KNIGHT QUALITY AND DEPENDABILITY FOR LIFE

BUY QUALITY AND DEPENDABILITY. . .BUY KNIGHT

KNIGHT

Knight Software LTD.
Central Village, CT
(203) 564-4982 (in CT)
(800) 531-5334

The Clone
DUAL DISC DRIVE FOR COMMODORE

- Commodore 64 Compatible
- 6 Kb Buffer Memory
- 2 Connector Serial Buss
- Daisy Chain Up To 4 Drives
- No Overheat Time
- Formats, Copies and Verifies in Less Than 2 Minutes
- 1 Full Year Warranty

CPS-10
COMMODORE POWER SUPPLY

- Two 100-Watt Outlets
- Surge and Spike Protection
- RFI and EMI Protection
- All Metal, Heavy-Duty Case
- Fully Serviceable
- Perfect Replacement for Commodore Power Supply
- 1 Full Year Warranty

Call TODAY
(618) 344-7912

HBH Sales Company
A DIVISION OF HBH CORPORATION
225 WEST MAIN STREET
COLLINSVILLE, IL 62234

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Checksums for *RUN* 1985 Programs

64 Perfect Typist, RUN's *checksum program, has earned much praise and positive response from our readers since we first introduced the program in our September 1985 issue. Many readers have inquired to find out if we would list checksums for previously published programs. With this issue, we begin a series of listings that will eventually give you checksums for most of the lengthy C-64 programs published from January to August 1985.*

This issue features the listings from August. Try entering programs from the August issue and find out how well 64 Perfect Typist works. Simply load and run 64 Perfect Typist (see How to Type Listings, on page 126), get out your August issue and begin typing in any program you find in the listings below. Every time you hit the return key, a number from 0 to 255 will appear. If you enter a line correctly, the number following the ":REM" next to the line number will appear.*

If you have already entered one of the programs from August and desire to check it for accuracy, simply enter 64 Perfect Typist, list lines individually or in small groups and position the cursor on the line you want to check. Next, press the return key, and, if you've entered the line correctly, the number that appears below the line will match the number following the ":REM" in the listings.*

You can look forward to seeing more of these listings of 1985 programs in subsequent 1986 issues of RUN.

C-64 Screen Formatter, by James Cooper; August, p. 80.

```
1     :REM*101     79    :REM*29     210   :REM*168    350   :REM*127    500    :REM*3
2      :REM*76     80    :REM*196    220    :REM*80    360   :REM*179    510   :REM*143
3     :REM*155     90    :REM*80     230   :REM*220    370   :REM*111    520   :REM*202
4      :REM*56    100   :REM*120     240    :REM*62    380    :REM*71    530    :REM*30
5     :REM*241    110   :REM*120     250     :REM*4    390   :REM*251    540   :REM*140
6      :REM*12    120    :REM*30     260    :REM*45    400   :REM*135    550   :REM*244
7     :REM*141    129    :REM*81     270    :REM*97    410   :REM*203    560    :REM*78
8     :REM*212    130   :REM*218     279   :REM*184    420   :REM*175    570    :REM*74
9     :REM*243    140     :REM*0     280   :REM*119    430    :REM*87    580    :REM*96
10    :REM*248    150   :REM*140     290   :REM*243    439    :REM*26    590     :REM*0
20    :REM*136    160    :REM*94     300   :REM*161    440    :REM*19    600   :REM*212
30     :REM*20    170   :REM*180     310    :REM*45    450   :REM*139    610    :REM*48
40    :REM*158    180   :REM*154     320   :REM*113    460   :REM*219    620   :REM*252
50     :REM*60    190   :REM*144     330    :REM*85    470   :REM*205    630   :REM*186
60    :REM*162    199    :REM*99     340   :REM*189    480   :REM*123    999   :REM*150
70    :REM*170    200   :REM*232     349    :REM*24    490   :REM*245
```

Trap Shoot, by Lee Fraley; August, p. 52.

```
1     :REM*129    110   :REM*178     414    :REM*97    800    :REM*29   1030    :REM*90
2     :REM*182    111   :REM*215     498   :REM*129    801    :REM*14   1031   :REM*149
3     :REM*225    200    :REM*28     499    :REM*10    810   :REM*197   1032    :REM*18
4     :REM*252    210   :REM*126     500   :REM*203    811   :REM*210   1040   :REM*102
5      :REM*87    211   :REM*253     501    :REM*94    890    :REM*63   1041    :REM*79
6     :REM*248    212    :REM*34     502    :REM*19    900    :REM*93   1042   :REM*116
10     :REM*78    299    :REM*10     510   :REM*253    901    :REM*12   1043    :REM*55
11     :REM*29    300    :REM*37     511    :REM*54    902    :REM*29   1999    :REM*16
12    :REM*102    302   :REM*179     512   :REM*230    903   :REM*196   2000    :REM*63
13     :REM*89    303   :REM*232     520    :REM*10    910   :REM*153   2001   :REM*240
14    :REM*158    397     :REM*4     521    :REM*19    911   :REM*160   2002   :REM*149
15    :REM*163    398   :REM*233     522   :REM*240    912   :REM*239   2003   :REM*134
16     :REM*64    399    :REM*74     530    :REM*20    913   :REM*180   2004   :REM*227
17    :REM*137    400   :REM*181     531   :REM*249   1000   :REM*225   2005   :REM*164
18     :REM*38    401   :REM*224     532   :REM*250   1001    :REM*54   2006   :REM*207
98     :REM*80    402   :REM*167     540    :REM*32   1002   :REM*127   2007   :REM*124
99     :REM*45    403   :REM*138     541   :REM*245   1003   :REM*182   2008   :REM*219
100   :REM*178    404    :REM*69     542    :REM*38   1004   :REM*171   2009   :REM*128
101   :REM*133    405   :REM*200     590   :REM*134   1010    :REM*65   2010   :REM*229
102   :REM*114    406   :REM*119     591   :REM*105   1011    :REM*88   2011   :REM*138
103    :REM*21    407   :REM*236     599   :REM*147   1012   :REM*209   2012   :REM*155
104   :REM*102    408   :REM*151     600    :REM*84   1013    :REM*24   2013    :REM*46
105   :REM*195    409    :REM*44     601    :REM*11   1020    :REM*77   2014   :REM*207
106   :REM*204    410    :REM*35     602   :REM*122   1021   :REM*108   2015    :REM*26
107    :REM*87    411    :REM*90     603   :REM*165   1022    :REM*15   2016    :REM*39
108   :REM*188    412   :REM*195     604    :REM*88   1023    :REM*40
109    :REM*79    413    :REM*12     605   :REM*129   1024    :REM*12
```


http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Byte-Size Compiler, by Victor Cortes; August, p. 62.

```
1Ø    :REM*2Ø4
15     :REM*63
2Ø    :REM*212
3Ø    :REM*122
4Ø    :REM*2ØØ
5Ø     :REM*24
6Ø    :REM*154
7Ø     :REM*14
8Ø    :REM*212
9Ø     :REM*36
1ØØ   :REM*1Ø6
11Ø    :REM*74
12Ø   :REM*134
13Ø    :REM*32
14Ø   :REM*116
15Ø    :REM*86
16Ø   :REM*242
17Ø   :REM*17Ø
18Ø   :REM*254
19Ø   :REM*174
2ØØ   :REM*164
21Ø     :REM*4
22Ø   :REM*12Ø
23Ø    :REM*2Ø
24Ø   :REM*254
25Ø    :REM*98
26Ø   :REM*223
27Ø    :REM*87
28Ø   :REM*135
29Ø    :REM*43
3ØØ   :REM*227
31Ø   :REM*213
32Ø    :REM*85
33Ø    :REM*71
34Ø   :REM*123
35Ø   :REM*215
36Ø   :REM*157
37Ø   :REM*229
38Ø   :REM*113
39Ø   :REM*159
4ØØ   :REM*223
41Ø   :REM*165
42Ø   :REM*217
43Ø    :REM*95
44Ø   :REM*153
45Ø   :REM*213
46Ø   :REM*163
47Ø    :REM*47
48Ø   :REM*111
49Ø    :REM*53
5ØØ   :REM*179
51Ø    :REM*51
52Ø    :REM*48
53Ø   :REM*218
54Ø    :REM*34
55Ø   :REM*242
56Ø   :REM*25Ø
57Ø   :REM*1Ø2
58Ø   :REM*198
59Ø    :REM*16
6ØØ   :REM*134
61Ø    :REM*92
62Ø    :REM*56
63Ø   :REM*2Ø8
64Ø   :REM*21Ø
65Ø   :REM*242
66Ø   :REM*134
67Ø    :REM*56
68Ø    :REM*38
69Ø    :REM*36
7ØØ    :REM*34
71Ø    :REM*6Ø
72Ø    :REM*52
73Ø    :REM*8Ø
74Ø    :REM*48
75Ø    :REM*34
76Ø   :REM*136
77Ø     :REM*3
78Ø   :REM*245
79Ø   :REM*145
8ØØ   :REM*199
81Ø   :REM*151
82Ø    :REM*61
83Ø    :REM*53
84Ø   :REM*113
85Ø    :REM*91
86Ø    :REM*95
87Ø    :REM*55
88Ø    :REM*31
89Ø    :REM*55
9ØØ   :REM*239
91Ø    :REM*85
92Ø   :REM*223
93Ø    :REM*53
94Ø   :REM*231
95Ø   :REM*139
96Ø   :REM*129
97Ø   :REM*113
98Ø   :REM*249
99Ø    :REM*43
1ØØØ  :REM*149
1Ø1Ø   :REM*123
1Ø2Ø    :REM*63
1Ø3Ø    :REM*92
1Ø4Ø   :REM*244
1Ø5Ø    :REM*22
1Ø6Ø    :REM*46
1Ø7Ø   :REM*1ØØ
1Ø8Ø    :REM*92
1Ø9Ø    :REM*92
11ØØ   :REM*166
111Ø   :REM*132
112Ø   :REM*212
113Ø    :REM*64
114Ø   :REM*1Ø4
115Ø   :REM*23Ø
116Ø    :REM*86
117Ø    :REM*78
118Ø   :REM*186
119Ø   :REM*164
12ØØ   :REM*126
121Ø    :REM*2Ø
122Ø   :REM*186
123Ø    :REM*42
124Ø   :REM*198
125Ø   :REM*174
126Ø   :REM*128
127Ø    :REM*14
128Ø   :REM*165
129Ø    :REM*11
13ØØ   :REM*255
131Ø   :REM*175
132Ø    :REM*65
133Ø    :REM*59
134Ø   :REM*157
135Ø   :REM*217
136Ø    :REM*81
137Ø    :REM*33
138Ø   :REM*149
139Ø   :REM*197
14ØØ    :REM*11
141Ø   :REM*187
142Ø    :REM*91
143Ø   :REM*1Ø3
144Ø    :REM*21
145Ø   :REM*197
146Ø    :REM*81
147Ø   :REM*221
148Ø   :REM*183
149Ø    :REM*29
15ØØ    :REM*57
151Ø    :REM*93
152Ø   :REM*167
153Ø   :REM*241
154Ø   :REM*224
155Ø   :REM*118
156Ø     :REM*4
157Ø   :REM*132
158Ø   :REM*156
159Ø    :REM*96
16ØØ   :REM*122
161Ø    :REM*54
162Ø    :REM*94
163Ø   :REM*186
164Ø   :REM*156
165Ø    :REM*22
166Ø    :REM*8Ø
167Ø   :REM*136
168Ø     :REM*6
169Ø   :REM*188
17ØØ    :REM*18
171Ø    :REM*16
172Ø   :REM*118
173Ø   :REM*248
174Ø   :REM*116
175Ø   :REM*172
176Ø   :REM*11Ø
177Ø    :REM*56
178Ø   :REM*242
179Ø   :REM*182
18ØØ   :REM*131
181Ø   :REM*185
182Ø   :REM*185
183Ø    :REM*73
184Ø     :REM*5
185Ø    :REM*75
186Ø    :REM*79
187Ø    :REM*27
188Ø   :REM*167
189Ø   :REM*171
19ØØ   :REM*159
191Ø    :REM*99
192Ø    :REM*57
193Ø   :REM*111
194Ø    :REM*57
195Ø    :REM*49
196Ø    :REM*89
197Ø    :REM*87
198Ø   :REM*183
199Ø   :REM*243
2ØØØ    :REM*29
2Ø1Ø    :REM*41
2Ø2Ø   :REM*185
2Ø3Ø   :REM*189
2Ø4Ø    :REM*73
2Ø5Ø   :REM*136
2Ø6Ø   :REM*21Ø
2Ø7Ø   :REM*122
2Ø8Ø   :REM*118
2Ø9Ø   :REM*1Ø6
21ØØ   :REM*1Ø2
211Ø   :REM*228
213Ø    :REM*42
214Ø   :REM*224
215Ø   :REM*148
216Ø    :REM*54
217Ø   :REM*152
218Ø    :REM*42
219Ø     :REM*6
22ØØ   :REM*25Ø
221Ø    :REM*9Ø
222Ø   :REM*222
223Ø    :REM*4Ø
224Ø   :REM*154
225Ø   :REM*128
226Ø    :REM*7Ø
227Ø   :REM*216
228Ø   :REM*236
229Ø   :REM*14Ø
23ØØ   :REM*218
231Ø   :REM*185
232Ø   :REM*137
233Ø    :REM*51
234Ø   :REM*193
235Ø   :REM*235
236Ø   :REM*225
```

Easy Assembly III, by William Sanders; August, p. 58.

```
42Ø   :REM*167
43Ø   :REM*167
44Ø   :REM*187
45Ø   :REM*161
46Ø   :REM*119
47Ø    :REM*41
48Ø   :REM*131
49Ø    :REM*45
5ØØ   :REM*137
51Ø    :REM*65
52Ø    :REM*3Ø
53Ø   :REM*192
54Ø   :REM*2Ø6
55Ø    :REM*1Ø
56Ø   :REM*1ØØ
57Ø   :REM*146
58Ø   :REM*12Ø
59Ø   :REM*216
6ØØ   :REM*1Ø6
61Ø   :REM*212
62Ø   :REM*152
63Ø    :REM*84
64Ø   :REM*192
65Ø   :REM*142
66Ø   :REM*212
67Ø     :REM*8
68Ø   :REM*24Ø
69Ø   :REM*238
7ØØ   :REM*214
71Ø   :REM*194
72Ø   :REM*234
73Ø   :REM*142
74Ø    :REM*94
75Ø    :REM*42
76Ø    :REM*6Ø
77Ø   :REM*2Ø5
78Ø    :REM*81
79Ø   :REM*229
8ØØ    :REM*67
81Ø   :REM*117
82Ø    :REM*15
83Ø    :REM*55
84Ø    :REM*35
85Ø   :REM*129
86Ø   :REM*189
87Ø    :REM*39
88Ø   :REM*119
89Ø    :REM*89
9ØØ    :REM*39
91Ø    :REM*21
92Ø   :REM*159
93Ø   :REM*235
94Ø    :REM*17
95Ø   :REM*155
96Ø   :REM*143
97Ø   :REM*225
98Ø   :REM*117
99Ø    :REM*51
1ØØØ  :REM*169
1Ø1Ø   :REM*63
1Ø2Ø   :REM*175
1Ø3Ø   :REM*198
1Ø4Ø    :REM*96
1Ø5Ø    :REM*8Ø
1Ø6Ø   :REM*16Ø
1Ø7Ø   :REM*216
1Ø8Ø   :REM*18Ø
1Ø9Ø     :REM*6
11ØØ    :REM*84
111Ø   :REM*21Ø
112Ø   :REM*186
113Ø   :REM*2Ø4
114Ø   :REM*17Ø
115Ø   :REM*114
116Ø    :REM*86
117Ø   :REM*242
118Ø    :REM*36
119Ø   :REM*168
12ØØ    :REM*42
121Ø     :REM*Ø
122Ø    :REM*2Ø
123Ø   :REM*1Ø8
124Ø   :REM*2Ø6
125Ø     :REM*4
126Ø   :REM*216
127Ø   :REM*21Ø
128Ø    :REM*43
129Ø   :REM*255
13ØØ    :REM*55
131Ø   :REM*161
132Ø    :REM*41
133Ø   :REM*187
134Ø    :REM*33
135Ø   :REM*135
136Ø   :REM*173
137Ø   :REM*217
138Ø   :REM*161
139Ø   :REM*155
14ØØ   :REM*243
141Ø   :REM*239
142Ø   :REM*191
143Ø    :REM*15
144Ø   :REM*1Ø5
145Ø    :REM*99
146Ø   :REM*187
147Ø   :REM*251
148Ø    :REM*45
149Ø    :REM*45
15ØØ   :REM*2Ø3
151Ø   :REM*197
152Ø   :REM*243
153Ø    :REM*51
154Ø    :REM*24
155Ø    :REM*68
156Ø    :REM*9Ø
157Ø   :REM*228
158Ø   :REM*198
159Ø   :REM*18Ø
16ØØ   :REM*142
161Ø   :REM*116
162Ø   :REM*138
163Ø    :REM*18
164Ø    :REM*98
165Ø   :REM*156
166Ø    :REM*36
167Ø   :REM*15Ø
168Ø   :REM*13Ø
169Ø   :REM*162
17ØØ   :REM*116
171Ø   :REM*1Ø8
172Ø    :REM*8Ø
173Ø    :REM*74
174Ø   :REM*124
175Ø    :REM*3Ø
176Ø    :REM*22
177Ø   :REM*1Ø2
178Ø   :REM*15Ø
179Ø    :REM*66
18ØØ   :REM*191
181Ø    :REM*87
182Ø   :REM*189
4ØØØ   :REM*241
4Ø1Ø   :REM*187
4Ø2Ø     :REM*5
4Ø3Ø   :REM*237
4Ø4Ø    :REM*59
4Ø5Ø   :REM*215
4Ø6Ø    :REM*37
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

The Longer, the Better, by Ronny Ong; August, p. 76.

```
1     :REM*249      24    :REM*112      47    :REM*43       7Ø    :REM*224      93    :REM*81
2     :REM*246      25    :REM*169      48    :REM*136      71    :REM*81       94    :REM*176
3      :REM*15      26    :REM*156      49    :REM*149      72    :REM*14       95    :REM*53
4      :REM*52      27    :REM*217      5Ø    :REM*62       73    :REM*131      96    :REM*186
5     :REM*149      28    :REM*228      51    :REM*1Ø5      74    :REM*22Ø      97    :REM*155
6     :REM*2Ø6      29    :REM*125      52    :REM*78       75    :REM*25       98    :REM*162
7     :REM*111      3Ø    :REM*162      53    :REM*67       76    :REM*154      99    :REM*145
8     :REM*214      31     :REM*65      54    :REM*3Ø       77    :REM*23       1ØØ   :REM*168
9      :REM*61      32    :REM*146      55    :REM*179      78    :REM*226      1Ø1    :REM*67
1Ø     :REM*12      33    :REM*177      56    :REM*82       79    :REM*231      1Ø2    :REM*32
11    :REM*2Ø3      34    :REM*252      57    :REM*225      8Ø    :REM*56       1Ø3   :REM*241
12    :REM*13Ø      35    :REM*211      58    :REM*22       81    :REM*1Ø7      1Ø4   :REM*22Ø
13    :REM*2Ø5      36    :REM*154      59    :REM*169      82    :REM*214      1Ø5   :REM*251
14     :REM*42      37    :REM*219      6Ø    :REM*12Ø      83    :REM*141      1Ø6   :REM*1Ø6
15    :REM*175      38     :REM*58      61    :REM*51       84    :REM*38       1Ø7   :REM*217
16    :REM*154      39    :REM*113      62    :REM*13Ø      85    :REM*151      1Ø8   :REM*228
17    :REM*213      4Ø     :REM*16      63    :REM*85       86    :REM*146      1Ø9   :REM*123
18    :REM*158      41     :REM*55      64    :REM*132      87    :REM*55       11Ø    :REM*72
19    :REM*1Ø3      42    :REM*116      65    :REM*49       88    :REM*152      111   :REM*137
2Ø    :REM*17Ø      43    :REM*247      66    :REM*238      89    :REM*175
21    :REM*227      44     :REM*24      67    :REM*249      9Ø    :REM*156
22    :REM*228      45    :REM*1Ø7      68    :REM*224      91     :REM*57
23    :REM*177      46    :REM*1ØØ      69    :REM*155      92     :REM*8Ø
```

The Key to Your Disk Directory, by Robin Franzel; August, p. 70.

```
1Ø    :REM*242      15Ø   :REM*1Ø8      29Ø   :REM*253      43Ø    :REM*41      1Ø1Ø  :REM*235
2Ø     :REM*56      16Ø    :REM*36      3ØØ    :REM*63      44Ø    :REM*67      1Ø2Ø  :REM*141
3Ø     :REM*34      17Ø   :REM*152      31Ø   :REM*129      45Ø   :REM*141      1Ø3Ø   :REM*64
4Ø    :REM*228      18Ø    :REM*96      32Ø   :REM*159      46Ø   :REM*243      1Ø4Ø   :REM*14
5Ø     :REM*28      19Ø    :REM*38      33Ø   :REM*219      47Ø     :REM*3      1Ø5Ø  :REM*11Ø
6Ø     :REM*5Ø      2ØØ    :REM*56      34Ø   :REM*211      48Ø    :REM*59      1Ø6Ø   :REM*66
7Ø    :REM*186      21Ø     :REM*8      35Ø   :REM*187      49Ø   :REM*137      1Ø7Ø  :REM*112
8Ø    :REM*124      22Ø    :REM*4Ø      36Ø    :REM*33      5ØØ    :REM*63      1Ø8Ø   :REM*54
9Ø     :REM*18      23Ø   :REM*2Ø4      37Ø   :REM*2Ø7      51Ø   :REM*221      1Ø9Ø   :REM*22
1ØØ   :REM*242      24Ø   :REM*178      38Ø   :REM*143      52Ø   :REM*194      11ØØ  :REM*12Ø
11Ø   :REM*178      25Ø    :REM*98      39Ø   :REM*217      53Ø    :REM*94
12Ø    :REM*32      26Ø    :REM*77      4ØØ   :REM*197      54Ø   :REM*186
13Ø   :REM*142      27Ø    :REM*39      41Ø    :REM*97      55Ø    :REM*94
14Ø   :REM*186      28Ø   :REM*131      42Ø   :REM*231      1ØØØ   :REM*49
```

Circle 219 on Reader Service card.

DEALER INQUIRIES INVITED
TO PRINTER
TO C-64
SERIAL BOX™
64K SERIAL PORT BUFFER
FOR THE COMMODORE
C-64 C-128 VIC-20
R. J. Brachman Associates, Inc.
P.O. BOX 1077 • HAVERTOWN, PA 19083
1-800-228-7264 (215) 622-5495
CLEAR
RUN PAUSE FULL PAUSE RESET
SERIAL BOX
64K SERIAL PORT BUFFER
is an intelligent 64K Serial Port Print buffer
that works with ALL Commodore printers
& ALL serial printer interfaces!
. . . and for ONLY $74.95 + Shipping
The Serial Box™ lets you compute while your
printer prints.
Imagine downloading a bit-mapped screen such
as Flexi-draw or Koala Painter in 27 seconds!
You can dump 15 pages of text or a 35-page
BASIC listing in 2½ minutes.
Oh yes, The Serial Box™ can even
skip over perforations.
SEE YOUR DEALER OR CALL 1 800 228 7264 FOR ORDERS AND INFORMATION
IN PENNSYLVANIA CALL (215) 622 5495 OR WRITE:
R. J. Brachman Associates, Inc.
P.O. BOX 1077 • HAVERTOWN, PA 19083
Please add $3.00 for shipping and handling (USA and Canada)
VISA, MC, Check or Money Orders accepted. C.O.D. add $2.50
PA residents add 6% (PLEASE ALLOW 4 TO 6 WEEKS FOR DELIVERY)
•Flexi-draw is a registered trademark of Inkwell Systems. Koala Painter is a registered
trademark of Koala Technologies Corp. •C64, C128 & VIC 20 are registered
trademarks of Commodore Business Machines, Ltd.

Circle 197 on Reader Service card.

THE BASEBALL DATABASE

LET YOUR COMPUTER KEEP TRACK OF YOUR TEAM'S BASEBALL STATS FOR YOU!

EASY TO USE
- Clear Screen Directions
- Easy Data Entry and Correction
- Detailed Users Manual
- Fast Statistics Retrieval from Disk

COMPREHENSIVE
- 23 Batting and Fielding Statistics
- 22 Pitching Statistics
- Up to 30 Players
- Unlimited Games
- Hits, Runs, Errors, LOB and ERs for Every Inning
- All Totals, Cumulatives, Averages Etc. Calculated

DETAILED PRINTED REPORTS
- Player Rosters
- Game Summaries
- Pitching Cumulatives
- And a lot more
- Win/Loss Records
- Team Cumulatives
- Player Histories

$49.95 APPLE IIe/IIc **$39.95** COMMODORE 64
- 15 day money back guarantee
- Check or money order please, plus $2.50 shipping and handling
- Program specs and details available upon request.

JACOBSEN SOFTWARE DESIGNS
1590 E. 43rd Avenue
Eugene, Oregon 97405
Phone: (503) 343-8030

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 177 on Reader Service card.

MOVING?
SUBSCRIPTION PROBLEM?

Get help with your subscription by calling our new toll free number:

1-800-645-9559*

between 9 a.m. and 5 p.m. EST, Monday–Friday.

If possible, please have your mailing label in front of you as well as your cancelled check or credit card statement if you are having problems with payment.

If moving, please give both your old address and new address.

* New York State residents call 1-800-732-9119.

$50 for your old interface

NEW! Universal Parallel Graphics Interface

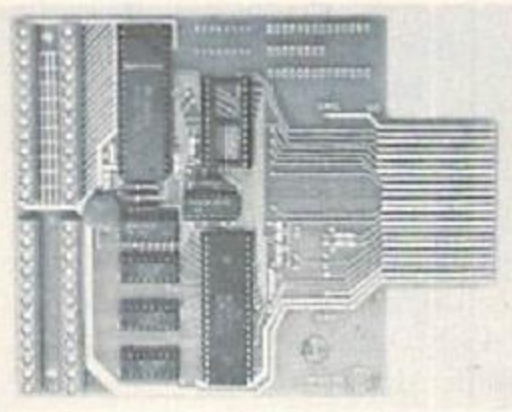
- Built-in self-test with status report
- Optional RAM printer buffer
- Provides virtually total emulation of Commodore printers for compatability with popular software
- ASCII conversion, total test, Emulate & tranparent mode
- Fully intelligent interface that plugs into standard Commodore printer socket
- Exclusive graphic key-match function
- Switch selectable Commodore graphics mode for Epson, StarMicronics, C. Itoh, Prowriter, Okidata, Seikosha, Banana, BMC, Panasonic, Mannesman Talley & others

Micrografix MW-350 ..... $129
..... $79.00 with any trade in

Universal Input/Output Board for C-64 & C-128

- 16 Channel 8-bit A/D converter with 100 microsecond sampling time.
- 1 D/A output
- 16 high voltage/high current discrete output
- 1 EPROM socket
- Use multiple boards for additional channels up to 6 boards

CBM-64 used MW-611 ..... $225.00



Dealer Inquiries invited

VISA MasterCard

Micro World Computers, Inc. (303) 957-9531
3333 W. Wadsworth Blvd. #C105
Lakewood, CO 80227

Circle 172 on Reader Service card.

IS BACKING UP COMMODORE SOFTWARE DRIVING YOU CRAZY?

Now you can Back-Up virtually all 64/128 Software with our NEW 1571 Clone Machine

(requires a Commodore 128 with 1571 drive)

Months of R & D have gone into our 1571 GCR CLONE MACHINE so that you now have the ability to reproduce GCR signals on the disk. This way you are assured that you're copying the most rudimentary signals placed on the disk allowing you to back-up 64 Software, CPM Software, and 128 Software. The complete package includes:
1) GCR COPY, 2) COMPLETE DENSITY UTILITY, 3) DIRECTORY UTILITIES (rename, delete, copy file, etc.), 4) AUTO BOOT MAKER (for 64 and 128 Software), 5) EXPANSION MODULE SECTION (for future upgrades.)

ONLY $49.95*

*(Send us any old copy program and we'll give you $10.00 credit so your cost for 1571 Clone Machine is only $39.95)

THE NEW CLONE BUSTER Cartridge for the 64 or 128 (in 64 mode) is now the best memory capture device available. Snapshot your software and save it out to the standard Commodore DOS. Will back-up most 64 software and remove annoying error tracks and difficult to load protection.

ONLY $49.95

Micro-W. DISTRIBUTING, INC

VISA MasterCard

CALL: (201) 838-9027
1342 B Route 23
Butler, N.J. 07405

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

74470 12069

N

Compiled by HAROLD R. BJORNSEN

Six-Part Harmony Music System

The Visible Music Monitor and the VT-6 cartridge provide an advanced music system for the C-64. The cartridge includes an extra sound chip to add three voices to the three that the 64's SID chip already includes.

Visible Music Monitor software allows you to create, edit, display and play your compositions, and store and retrieve your music on disk or tape.

Editing features include the ability to move or change notes, measures and segments, and to cut, paste and copy. They also provide full editing control over all chip sounds. The system is available from V-Tech (2223 Rebecca, Hatfield, PA 19440) for $89.

Check Reader Service number 413.

The Artworx Program Exchange

Artworx (150 North Main St., Fairport, NY 14450) has shipped a new line of software called The Artworx Program Exchange.

The Exchange consists of 11 programs for the C-64, ranging from traditional arcade games to mystery thrillers and family adventures. Each package is available on disk for $9.95.

Check Reader Service number 414.

Telecommunications Printer

Okidata (532 Fellowship Road, Mt. Laurel, NJ 08054) has introduced its dot-matrix printer for telecommunications use.

The Microline 182 TTY features utility-mode printing and bit-image graphics at 120 cps in the Utility mode and at 60 cps in the Emphasized and Enhanced modes.

In the Teletype mode, the printer responds only to carriage-return, line-feed and form-feed commands, thus preventing any extraneous commands from corrupting received data or delaying the printer.

In the CRT mode, page-formatting commands are added. In the Intelligent Printer mode, the printer operates exactly as the standard Microline 182. Available for the C-64 for $349.

Check Reader Service number 400.

Sesame Street Software

CBS Software (One Fawcett Place, Greenwich, CT 06836) releases three educational programs for children of ages 4–6.

Sesame Street Pals Around Town introduces your child to some of the physical and social characteristics that make up a community. With help from Sesame Street characters, your child explores five neighborhood locations: a classroom, a school yard, a busy downtown street, Bert and Ernie's apartment and Sesame Street.

Grover's Animal Adventures features graphics and music in presenting four different animal environments: the African grasslands, the Atlantic Ocean, a North American forest and a barnyard.

In Ernie's Big Splash, Ernie has lost his rubber duck. Your child helps Ernie find the toy by building a pathway that leads the rubber duck from his soap dish into Ernie's bathtub.

The programs are available on disks for the C-64 at $14.95 each.

Check Reader Service number 401.

Wargames

Strategic Simulations (883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043) has released three wargames on disks for the C-64.

Battle of Antietam is a tactical Civil War game that takes place during the September 17, 1862, battle along the Antietam Creek at Sharpsburg, Pennsylvania. Three ability levels are included: introductory, intermediate

Three new educational software packages from CBS Software.

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

and advanced. The game retails for $49.95.

Norway 1985 deals with an imagined Soviet occupation of Norway and NATO's counterattack. In addition to the normal complement of fighting units, infantry and mortar infantry, ski troops are used. Retail price is $34.95.

U.S.A.A.F. (United States Army Air Force) is a strategic simulation of the daylight bombing of German industry from 1943–1945. The game retails for $59.95.

Check Reader Service number 405.

Commodore Carrier

Systems Go Carry-All is a carrying case designed to hold your C-64 keyboard, 1541 disk drive, joystick, cables, programs and documentation. It features hinged foam pads to secure and protect your equipment, and the panels can be removed to accommodate the C-128.

The carry-all's outer fabric is made of Cordura nylon, which is featherweight and washable and resists tearing, stains and mildew; moreover, its inner surface is coated with urethane to enhance waterproofing.

A waterproof, ½-inch-thick closed-cell polyethylene foam lining, with twice the impact strength of standard foams, insulates your equipment.

For carrying comfort, the carry-all features a padded hand grip and a padded, nonslip shoulder strap. Available for $49.95 from Systems Go, 234 Antiquera #6, Coral Gables, FL 33134.

Check Reader Service number 406.

For Computer Lovers Everywhere

King Chip is an action game of chance, strategy, risk and knowledge for two to six players. The object is to attain and keep the throne of King Chip. All other players attempt to dethrone the king by asking him questions of increasing difficulty until he answers incorrectly. A new king ascends the throne at this point.

The questions are based on high technology and the computer, and are grouped into five levels of difficulty. Each answer is accompanied by an explanation designed to inform and educate players. Different handicap levels allow computer novices to compete with more knowledgeable players.

Carry-All, from Systems Go.

The game is available for $39.95 from Directline, 110 Torbay Road, Markham, Ontario, Canada L3R 1G6.

Check Reader Service number 407.

C-128 Word Processor

Professional Software (51 Fremont St., Needham, MA 02194) has released Fleet System 3, a word processor for the C-128 and compatible printer.

Fleet System 3 features function windows that automatically appear on screen to guide you through the program's operations; it also gives you context-sensitive help windows that provide help with the function on which you are working.

Included are user-definable printer sequences that allow access to any printer feature, proportional spacing, a built-in thesaurus and the ability to include a high-resolution graphics picture within your text files. Available on disk for about $95.

Check Reader Service number 408.

Speakers for Your Computer

RoomMate, from Bose Corp. (100 The Mountain Road, Framingham, MA 01701), is a compact, lightweight stereo speaker system for your Commodore computer.

Each speaker contains its own power transformer, eliminating the need for a separate amplifier.

There are two versions of the product: the original RoomMate ($229) and the Video RoomMate ($279).

Check Reader Service number 409.

Whole Body Health Management

WHM Fitness Software (18653 Ventura Blvd., Suite 137, Tarzana, CA 91356) has released two fitness programs for the C-64.

Physical Fitness Evaluation utilizes tests to evaluate your strength, flexibility, endurance, foot type and body composition. The program includes on-screen directions and a graphics picture of the test. It is self-scoring, and it allows you to save and view data and record forms.

Rehab Fitness Evaluation is a special version of the Physical Fitness Evaluation program that assesses overall body fitness for sedentary persons.

Both programs (available on disk for $39.95 each) are for users aged 14 to adult.

Check Reader Service number 410.

Bilbo Lives

J.R.R. Tolkien's classic, *The Hobbit*, is now a software adventure game available for the C-64.

Eighty graphics screens illustrate the game, and over 50 different action commands are at your disposal.

The Hobbit's documentation includes a copy of Tolkien's fantasy novel as well as a hint booklet and a guide to Middle-earth. Available on

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Circle 122 on Reader Service card.

COMPBANK—64

- REPLACES YOUR MANUAL CHECKBOOK.
- PRINTS CHECKS!!!
- STORES DATA FOR LATER USE.
- KEEPS TRACK OF CHECKS OUTSTANDING.
- LISTS BY DATE OR ACCOUNT NUMBER ON SCREEN OR PRINTER.
- AUTOMATIC RECONCILATION.

ORDER COMPBANK—64
$19.95 PLUS $2.00 S&H
FLA. RES. ADD 5% TAX
INCLUDES MANUAL

REQUIRES DISK DRIVE. ALSO REQUIRES ADDITIONAL FORMS TO PRINT CHECKS

SUNRISE SOFTWARE

8901 NW 26 ST
SUNRISE, FL 33322

Circle 205 on Reader Service card.

VCR USERS:
AT LAST—AN ANSWER!

Use your computer to:
- *immediately locate anything you have on your tapes.*
- *generate a list of exactly what you have on your tapes, either alphabetically or in order of length.*
- *instantly find the best spot on your tapes to record new material.*
- *be certain that you won't accidentally erase something you don't want to.*
- *and much, much more, quickly and effortlessly.*

with **VideoFile**, the first and only computer program specifically designed to solve all the problems of the home video user. **VideoFile** is so logically written and fun to use, any member of the family can learn to use it in minutes! Say goodbye to the scraps of paper and the messy scribbled tape boxes, and get **VideoFile!**

Realizing that **VideoFile** is its own best salesman, we've prepared a demo disk for $10.00 (return it for $10.00 credit towards **VideoFile!**)

Available now: **VideoFile** for the Commodore-64. Due in October: **VideoFiles** for IBM compatibles and Apple II.

VideoFile
Box 480210, Dept. , Los Angeles, CA 90048

☐ Send **VideoFile** disk for the C-64. ($49.95)
☐ Send **VideoFile** C-64 demo disk. ($10.00)
☐ Please let me know when **VideoFile** is available for: ☐ IBM compatibles ☐ Apple II

Name _____
Address _____
City _____ State _____ Zip _____
(CA residents must include $3.25 tax. $0.65 for the demo)

http://www.oldgamesitalia.net/

New Products RUNdown

disk for $29.95 from Addison-Wesley, General Publishing Group, Reading, MA 01867.

Check Reader Service number 411.

Votrax's Votalker C-64.

Votalker C-64

Votrax (1394 Rankin, Troy, MI 48083) introduces the Votalker C-64, a new addition to the Votalker family of speech synthesizers.

Its capabilities include a screen echo that allows all words, numbers, punctuation marks and other symbols to be automatically spoken as they are printed to the terminal screen.

In addition, the unit speaks an unlimited vocabulary and has a Speak command that vocalizes text printed to the screen.

Votalker contains its own amplifier, speaker and external speaker jack. Available for $99.95.

Check Reader Service number 404.

Three New Games

Mindscape (3444 Dundee Road, Northbrook, IL 60062) has released three new graphics adventure games for the C-64.

In Quake Minus One, a terrorist group has sabotaged an undersea power station. Unless the four renegade robots roaming the power station are destroyed or captured within ten hours, they'll trigger an earthquake that will paralyze the western world.

Shadowfire is a space adventure in which six superheroes board an alien spacecraft, locate and rescue a kidnapped ambassador, apprehend the alien's leader and capture or destroy the alien spacecraft.

Lords of Midnight is a medieval adventure that can be played as a quest, a war or both. Characters must be moved by day across the forbidden terrain of the Land of Midnight in search of Doomark the Witchking. By night, the computer responds to your commands. More than 32,000 landscapes can appear during the course of play.

Each game is available on disk for $29.95.

Check Reader Service number 412.

Bottoms Up

The Bartender is a database program that can store over 400 drinks or recipes on one disk and allows you to list drinks alphabetically or by record number. Recipes for over 200 popular drinks are included on a starter disk.

The Bartender is available for the C-64 for $24.95 from Cursor Products, RR 71, Box 1858, Camdenton, MO 65020.

Check Reader Service number 402.

New Testament Concordance, from Midwest Software.

New Testament on Disk

Midwest Software (22500 Orchard Lake Road, Suite 1, Farmington, MI 48024) has released The New Testament Concordance, the King James version of the Bible on three disks.

The 6000 distinct words used in the New Testament can be scrolled on the screen, and all verses containing a particular word or phrase may be displayed or printed out. A context option allows you to display numerous verses before and after the target verse. Available for the C-64 for $49.50.

Check Reader Service number 403.

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

THE PLAYWRITER™ SERIES
GREAT AMERICAN WRITING CONTEST
WIN OVER $1,000 IN PRIZES

PLUS publication and distribution of your book . . . PLUS "new author treatment" including multimedia attention . . . PLUS a computer for your school or library

Contest Sponsors Include: D.C. Comics, Grolier Electronic Publishing, Run, Incider, and Instructor Magazines

Grand prize winners will be selected in 3 age categories: **Adventures in Space** (Grades 4 and below), **Castles & Creatures** (Grades 5-6), **Mystery!** (Grades 7-12).

EASY TO ENTER: Use PlayWriter – the new computer-assisted writing softwear series – to write and edit your story. Print it onto PLAIN PAPER. Send your **un-illustrated** story and the completed entry blank below to **Woodbury Software.** (DO NOT SEND HARDCOVER BOOKS.) All entries become the property of Woodbury and will not be returned. Entries must be postmarked by January 31, 1986.

EVERY ENTRANT WINS A PRIZE! • NO PURCHASE NECESSARY!

Entries will be judged on the basis of: Content, Originality, Grammar, Spelling and Overall Effect. Decision of the judges is final.

Send to **Woodbury Software**
127 White Oak Lane, CN 1001, Old Bridge, NJ 08857

Name _____ Grade _____

Address _____ Phone _____

City, State, Zip _____

Sponsoring School (if applicable) _____

Sponsoring Library (if applicable) _____

Circle 128 on Reader Service card.

DIGITAL VISION

COMPUTEREYES™

VIDEO IMAGES ON YOUR COMPUTER!

Finally—an inexpensive way to capture real-world images on your computer's graphics display! COMPUTEREYES™ is an innovative slow-scan device that connects between any standard video source (video tape recorder, video camera, videodisk, etc.) and your computer. Under simple software control, a b/w image is acquired in less than six seconds. Unique multi-scan modes also provide realistic grey-scale images. Hundreds of applications!

Package includes interface module, complete easy-to-use software support on disk, owner's manual, and one year warranty all for $129.95 plus $4.00 S&H (USA).

Also available as a complete package including:
- COMPUTEREYES™
- Quality b/w video camera
- Connecting cable

for only $399.95 plus $9.00 S&H.

Demo disk available for $10.00 postpaid (refundable).

ONLY $129.95

See your dealer or order direct. Mass. residents add 5% sales tax. Mastercard, Visa accepted. To order, or for more information, write or call:

Available for:
- Apple II series
- Commodore 64/128
- Atari 800/800XL/65XE/130XE

DIGITAL VISION, INC.
14 Oak Street — Suite 2
Needham, MA 02192
(617) 444-9040, 449-7160

C-64™ • C-128™ • VIC-20™ • SX-64™ • Plus 4™ • C-16™ • B-128™ • PET/CBM™

One disk. 25 business programs, $29.95

Now for the good part:

The **Intelligent Software** integrated home/business/educational package comes on disk or tape at the ridiculous price of **$29.95** (plus five cents for postage + handling). It is not public domain or home-brew software; totaling over 50 pages of source code, it was designed and tested as a package to take care of all your data processing needs.

Customers write: *". . . accolades for the authors. This is as slick a deal as I have seen and more than adequate for all except fancy presentations. The best thing is the ease of use . . ."*

"I have come to consider these programs among the most valuable pieces of software I own."

The package includes:

Database: A complete multi-keyed fixed-record-length data base manager. Sort or select (using all relational operators: =, >, <, AND, OR, NOT, wild card) on any field, perform computations on numeric fields. Any operation can be performed on all, or only selected records. All fields completely user-definable. Can be used for any number of tasks, including accounting, mailing lists, inventory control, record, tape, or book cataloging, expense account maintenance, or as an electronic rolodex. One customer writes: *"I am especially impressed with Database, and have used it to replace a half-dozen other 'database' type programs I had been using."* Even if you use your Commodore for nothing else, this program alone might justify its expense.

Word Processor: A full-featured menu-driven word processor including: very fast file commands, screen editing, text locating and full control over margins, spacing, paging, indentation, and justification. *". . . well done and highly functional . . . Provides an excellent alternative to the high priced word processors . . . this is an excellent buy. Highly recommended."* — Midnite Software Gazette. *"Provides good basic features."* — Compute's Gazette.

Copycalc: An electronic spreadsheet. Turns your Commodore into a visible balance sheet; includes screen editor. *"Excellent program for budgeting, estimating, or any math-oriented use . . . well worth the money. Highly recommended."* — Midnite Software Gazette.

Also included: **ReportGen, ReportMerge** (these interface W/P with Database to create form letters, statements, invoices, mailing labels, other reports.); **Baseball Statistician** (compiles batting statistics for a baseball league); several W/P utilities, including **Index** (indexes W/P's text files); several Database utilities, including **DBmerge** (facilitates multi-file database applications.), and **DBStat** (analyzes D/B files); a programming utility, **ASCII,** which converts text files (program listings) into program files; also **Checkbook; Inventory; Paper Route; Loan Analysis; Breakeven Analysis; Depreciation; Labeler; File Copier;** more.

Versions of the package are available for every Commodore computer having a minimum of 10k RAM (including the C-128 in 128 mode). All programs will support tape, disk, and printer. Price includes documentation; Calif. residents add 6%. Add $3 for credit card, COD, 8050 disk, or cassette orders (cassette not available for Plus4™ and 16™.) No personal checks from outside USA. This ad is the catalog; send $1 (deductible from order) for a sampling of program output.

Intelligent Software
Quality Software since 1982

Box A Dept. R-7
San Anselmo, CA 94960
(415) 457-6153

C LANGUAGE COMPILER
FOR COMMODORE 64/128 COMPUTERS

C POWER is the REAL THING, a fully implimented Kernihan and Ritchie standard, compatible C Language Compiler. **C POWER** compiles directly to native 6510 object code in one pass. **C POWER** comes complete with standard, system and math function libraries, linker, translator, shell, standard editor, syntax checking editor, utility programs, lots of sample files, and a 531 page C Language Primer.

C POWER source code can be compiled and run on IBM PC, APPLE, and many more C compatible and UNIX computers.

C POWER is only $99.95 (US$) or $129.95 (CDN$).

Toll Free Order Line
1-800-387-3208

PRO·LINE SOFTWARE

755 The Queensway East, Unit 9, Mississauga, Ontario, Canada L4Y 4C5, Phone 416-273-6350

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

How to Type in C-64 and C-128 Listings from RUN

To simplify your typing of *RUN*'s C-64 and C-128 program listings, we include checksum numbers. These numbers follow a REM statement at the end of each line (e.g., :REM*123). These checksum numbers necessitate your using RUN's Perfect Typist programs, listed below. Use 64 Perfect Typist for C-64 programs and 128 Perfect Typist for 128 Mode programs on the C-128.

Type in 64 Perfect Typist (Listing 1) or 128 Perfect Typist (Listing 2) and save it to either tape or disk before running. When you want to type in a 64- or a 128-mode program, first load and run the appropriate Perfect Typist listing. Two SYS numbers will be displayed on your screen. Jot these down and keep them handy. They are the SYS numbers that you type in for deactivating and reactivating the checksum program.

After Perfect Typist has been loaded and run, start typing in the program listing from *RUN* as you normally do. The only difference is that now, after you press the return key to log in each line, a 1-, 2- or 3-digit number will appear below the line on the left margin. This is the checksum number, ranging from 0 to 255.

If this number matches the checksum number printed in the listing after the :REM*, then you know you have typed that line correctly. Then you type the next program line right over the previous line's checksum value. If the checksum numbers do not agree, analyze your line on screen for any typographic errors or omissions. Make the needed changes and press the return key again to log in those changes. A new checksum number will appear in place of the old one. Compare this to the magazine's number and then proceed to the next line.

When you've finished typing in your program, disable the Perfect Typist by typing in the appropriate SYS number for either 64 or 128 mode, and press the return key. Now you can save your program as usual, to disk or tape. (Before you attempt to run your new program, turn your computer off and back on to completely clear out the Perfect Typist program.)

You may save an incomplete program any time and continue it later. You will have to reload and run the Perfect Typist program, then load the incompleted program that you were working on, list it, and continue where you left off.

The 128 Perfect Typist will work in either 40 or 80 columns. Also, it lets you use the C-128's automatic line-numbering. If Auto is on, the checksum will be printed below the line you just entered, and the C-128 will place the next line number below the checksum.

All listings in *RUN* have been translated so that the graphics and control characters are designated as understandable key combinations. When you see instructions inside curly brackets, such as {SHIFT L}, you should hold down the shift key and press the L key. What you see on your screen will look quite different from what is designated inside the brackets. Another example is {22 SPACEs}, which instructs you to press the space bar 22 times.

Listing 1. *64 Perfect Typist program.*

```
1 REM 64 PERFECT TYPIST
2 REM
3 REM WRITTEN BY:
4 REM JAMES E. BORDEN
5 REM 641 ADAMS ROAD
6 REM CARLISLE, PA 17Ø13
7 REM
1Ø POKE56,PEEK(56)-1:POKE52,PEEK(56):CLR
2Ø PG=PEEK(56):ML=PG*256+6Ø
3Ø FORX=ML TO ML+154:READD:T=T+D:POKEX,D:NE
   XT
4Ø IFT<>16251 THEN PRINT"ERROR IN DATA...":
   END
6Ø POKEML+4,PG:POKE ML+1Ø,PG:POKE ML+16,PG
7Ø POKE ML+2Ø,PG:POKE ML+32,PG:POKE ML+38,P
   G
8Ø POKE ML+141,PG
89 PRINT"{SHFT CLR}{CRSR RT}**************
   ************************"
9Ø SYS ML:PRINT "{CRSR RT}** 64 PERFECT TYP
   IST IS NOW ACTIVE{2 SPACEs}**"
1ØØ PRINT "{CRSR RT}** SYS"ML"=ON{5 SPACEs}
    SYS"ML+3Ø"=OFF **"
1Ø1 PRINT"{CRSR RT}************************
    **************":NEW
11Ø DATA 173,ØØ5,ØØ3,2Ø1,ØØ3,2Ø8,ØØ1,Ø96
12Ø DATA 141,1Ø5,ØØ3,173,ØØ4,ØØ3,141,1Ø4
13Ø DATA ØØ3,162,1Ø3,16Ø,ØØ3,142,ØØ4,ØØ3
14Ø DATA 14Ø,ØØ5,ØØ3,Ø96,234,234,173,1Ø4
15Ø DATA ØØ3,141,ØØ4,ØØ3,173,1Ø5,ØØ3,141
16Ø DATA ØØ5,ØØ3,Ø96,Ø32,124,165,132,Ø11
17Ø DATA 162,ØØØ,142,24Ø,ØØ3,142,241,ØØ3
18Ø DATA 189,ØØØ,ØØ2,24Ø,Ø51,2Ø1,Ø32,2Ø8
19Ø DATA ØØ4,164,212,24Ø,Ø4Ø,2Ø1,Ø34,2Ø8
2ØØ DATA ØØ8,Ø72,165,212,Ø73,ØØ1,133,212
21Ø DATA 1Ø4,Ø72,238,241,ØØ3,173,241,ØØ3
22Ø DATA Ø41,ØØ7,168,1Ø4,Ø24,Ø72,Ø24,1Ø4
23Ø DATA Ø16,ØØ1,Ø56,Ø42,136,Ø16,246,1Ø9
24Ø DATA 24Ø,ØØ3,141,24Ø,ØØ3,232,2Ø8,2ØØ
25Ø DATA 173,24Ø,ØØ3,Ø24,1Ø1,Ø2Ø,Ø24,1Ø1
26Ø DATA Ø21,141,24Ø,ØØ3,169,Ø42,Ø32,21Ø
27Ø DATA 255,169,ØØØ,174,24Ø,ØØ3,Ø32,2Ø5
28Ø DATA 189,162,ØØ3,189,211,ØØ3,Ø32,21Ø
29Ø DATA 255,2Ø2,Ø16,247,164,Ø11,Ø96,145
3ØØ DATA Ø13,Ø32,Ø32
```

Listing 2. *128 Perfect Typist program.*

```
1 REM 4Ø/8Ø COL 128 MODE PERFECT TYPIST
2 REM
3 REM WRITTEN BY:
4 REM JAMES E. BORDEN
5 REM 641 ADAMS ROAD
6 REM CARLISLE, PA 17Ø13
7 REM
1Ø FORX=512ØTO5379:READD:T=T+D:POKEX,D:NEXT
2Ø IFT<>28312 THENPRINT"{2 CRSR DNs}ERROR I
   N DATA...":END
25 A$="":IFPEEK(215)=128THENA$="{2Ø SPACEs}
   "
3Ø PRINT"{SHFT CLR}"A$"{CRSR RT}**********
   **************************"
4Ø PRINTA$"{CRSR RT}** 128 PERFECT TYPIST I
   S NOW ACTIVE **"
5Ø PRINTA$"{CRSR RT}**{2 SPACEs}SYS 512Ø=ON
   {7 SPACEs}SYS 515Ø=OFF{2 SPACEs}**"
6Ø PRINTA$"{CRSR RT}**********************
   ***************":SYS512Ø:NEW
512Ø DATA 173,ØØ5,ØØ3,2Ø1,Ø2Ø,2Ø8,ØØ1,Ø96,1
     41,Ø45
513Ø DATA Ø2Ø,173,ØØ4,ØØ3,141,Ø44,Ø2Ø,162,Ø
     43,16Ø
514Ø DATA Ø2Ø,142,ØØ4,ØØ3,14Ø,ØØ5,ØØ3,Ø96,2
     34,234
515Ø DATA 173,Ø44,Ø2Ø,141,ØØ4,ØØ3,173,Ø45,Ø
     2Ø,141
516Ø DATA ØØ5,ØØ3,Ø96,Ø32,Ø13,Ø67,14Ø,255,Ø
     19,162
517Ø DATA ØØØ,142,252,Ø19,142,253,Ø19,142,2
     54,Ø19
518Ø DATA 189,ØØØ,ØØ2,2Ø1,Ø32,24Ø,ØØ8,2Ø1,Ø
     48,144
519Ø DATA ØØ7,2Ø1,Ø58,176,ØØ3,232,2Ø8,238,1
     89,ØØØ
52ØØ DATA ØØ2,24Ø,Ø54,2Ø1,Ø32,2Ø8,ØØ5,172,2
     54,Ø19
521Ø DATA 24Ø,Ø42,2Ø1,Ø34,2Ø8,Ø1Ø,Ø72,173,2
     54,Ø19
522Ø DATA Ø73,ØØ1,141,254,Ø19,1Ø4,Ø72,238,2
     53,Ø19
523Ø DATA 173,253,Ø19,Ø41,ØØ7,168,1Ø4,Ø24,Ø
     72,Ø24
524Ø DATA 1Ø4,Ø16,ØØ1,Ø56,Ø42,136,Ø16,246,1
     Ø9,252
525Ø DATA Ø19,141,252,Ø19,232,2Ø8,197,173,2
     52,Ø19
526Ø DATA Ø24,1Ø1,Ø22,Ø24,1Ø1,Ø23,141,252,Ø
     19,169
527Ø DATA Ø42,Ø32,241,Ø2Ø,Ø32,188,Ø2Ø,16Ø,Ø
     Ø2,185
```


http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

```
5280 DATA 185,020,032,241,020,[illegible],247,1
     65,116
5290 DATA 208,009,165,117,208,005,169,145,0
     32,241
5300 DATA 020,172,255,019,096,013,032,032,1
     62,000
5310 DATA 173,252,019,232,056,233,100,176,2
     50,105
5320 DATA 100,202,240,003,032,232,020,201,0
     10,176
5330 DATA 005,205,252,019,240,015,162,000,2
     32,056
5340 DATA 233,010,016,250,024,105,010,202,0
     32,232
5350 DATA 020,170,072,138,009,048,032,241,0
     20,104
5360 DATA 096,170,173,000,255,072,169,000,1
     41,000
5370 DATA 255,138,032,210,255,104,141,000,2
     55,096
```

RUN AMOK

Item: In the Hardware Buyer's Guide (November 1985), the address for Romco (PO Box 18359, Wichita, KS 67218-0359) was unintentionally omitted from the hardware manufacturers' address list.

Item: In the Software Buyer's Guide 1985, Part I (December 1985), the correct retail price for The Newsroom (Springboard Software, Inc., 7807 Creekridge Circle, Minneapolis, MN 55435) is $49.95.

Item: In Michael Reich's Credit-Card Keeper program (December 1985, p. 144), line 560 should be changed to read

IFC<>1THENIFN<YITHENNEXTN

to avoid a possible Next-Without-For error.

Item: Editorial changes regrettably distorted the meaning of a section of Robin Franzel's article, 64 BasicAid (December 1985). The last paragraph of column 2 and the first paragraph of column 3 on page 132 should read as follows:

"If you wanted to find GOTO in the program line 100 PRINT"GOTO THE STREAM", the above command won't work. It would search only for the GOTO command or token. To prevent the Basic interpreter from tokenizing your search string, simply use the quote mark as your delimiter. For example, FIND"GOTO" will find all occurrences of the word GOTO that are not commands.

The screen will display each line containing the search string. To prevent the lines from scrolling off the screen, the search stops after the eighth line, and the following message is displayed: CONTINUE Y/N. Y will display. . ."

Also on page 132, further down column 3, the variable name COST$ should be changed to something else, perhaps COPY$, since COS (cosine) is a reserved word.

Finally, the last paragraph of the same article (p. 133) neglected to request a disk, as well as $3 and a mailer. If you have already asked Mr. Franzel for a copy, or intend to do so, please send him a disk, so he won't be out of pocket for that item.

The RUNning Board

RUN invites you to contact its bulletin board (RUNning Board). In addition to up-to-date information about *RUN* and the Commodore industry, the RUNning Board now presents useful computing hints and tips, corrections and updates to published articles, user's group information, an up-to-date list of selections for ReRUN and sneak previews of upcoming articles.

The RUNning Board also features a menu format that makes it easier and faster for you to select a specific section of the bulletin board. We use a standard protocol, 300 baud, one stop-bit, no parity, full duplex and a word length of eight bits.

The RUNning Board is definitely worth a call. You can get on-line anytime, 24 hours a day, seven days a week, by dialing 603-924-7632.

Manuscripts: Contributions in the form of manuscripts with drawings and/or photographs are welcome and will be considered for possible publication. Article text and any accompanying programs should be submitted on disk as well as in hard-copy form. *RUN* assumes no responsibility for loss or damage to any material. Please enclose a self-addressed, stamped envelope with each submission. Unsolicited manuscripts that cannot be accepted will be returned only if accompanied by an appropriately sized, adequately stamped, self-addressed envelope. Payment for the use of any unsolicited material will be made upon acceptance. All contributions and editorial correspondence (typed and double-spaced, please) should be directed to *RUN* Editorial Offices, 80 Pine Street, Peterborough, NH 03458; telephone: 603-924-9471. **Advertising Inquiries** should be directed to Advertising Offices, CW Communications/Peterborough, Inc., Elm Street, Peterborough, NH 03458; telephone: 800-441-4403. **Subscription problems or address changes:** Call 1-800-645-9559 or write to *RUN*, Subscription Department, PO Box 954, Farmingdale, NY 11737. **Problems with advertisers:** Send a description of the problem and your current address to: *RUN*, Elm Street, Peterborough, NH 03458, ATTN.: Barbara Harris, Customer Service Manager, or call 1-800-441-4403.

HAVING TROUBLE REMEMBERING ALL THE COMMANDS FOR YOUR PROGRAMS??
YOU NEED
LEROY'S CHEATSHEET®

KEYBOARD OVERLAYS FOR COMMODORE 64™

LEROY'S CHEATSHEETS* are plastic laminated keyboard overlays designed for use with popular software, hardware, and languages for Commodore 64™ computers.
These cut-out-yourself help sheets fit over the keyboard, putting hard to remember program commands right at your fingertips. The actual keystrokes are in **bold** type and any variables are shown in *italics*. Now you can use your software faster, more easily, and more effectively. With LEROY'S CHEATSHEETS* you'll never have to hunt for a program command again.

ONLY $3.95 EACH

✓ FITS OVER KEYBOARD
✓ PUTS PROGRAM COMMANDS RIGHT AT YOUR FINGERTIPS
✓ SAVES TIME — ENDS FRUSTRATION
✓ GET TO KNOW YOUR SOFTWARE BETTER
✓ LEARN NEW SOFTWARE FASTER, EASIER
✓ STURDY PLASTIC LAMINATE
✓ UNBEATABLE PRICE!*

CIRCLE YOUR CHOICES

Basic	Simons' Basic	Blanks (set of 3)
Consultant	Sky Travel	Disk 1541
Doodle	Speedscript	Easy Script
Flight Simulator II	Superbase	Fleet System 2
For the Beginner	Vidtex	Manager
Multiplan	VIP Terminal	OmniWriter
Paper Clip	Vizastar	PractiCalc 64
PractiCalc II	WordPro 3+	Okidata 92, 93
DOZENS MORE AVAILABLE	WordPro 64	Epson FX & RX Printers
	Write Now!/64	Gemini 10, 15x
	1525, MPS 801, 803	
	1526, MPS 802	

QTY ____ X $3.95 = $ ____
SHIPPING $ 1.00 *
6% TAX $ ____
TOTAL $ ____
*U.S. & CANADA $1.00 FOREIGN ORDERS $3.00 CHECK, M.O., MC, VISA U.S. FUNDS ONLY
MC VISA # ____
EXPIRATION DATE ____
NAME ____
ADDRESS ____
CITY ____
STATE ____ ZIP ____
RUN1
CHEATSHEET PRODUCTS INC.
P.O. Box 111368 Pgh., PA 15238
(412) 781-1551

http://www.oldgamesitalia.net/
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

List of Advertisers

Reader Service		Page
8	Abacus Software	40
8	Abacus Software	41
79	Aprotek	17
210	Aprotek	108
61	Aquarian Communications	75
56	B.E.S.T.	56
*	Batteries Included	37
232	Blackship Computer Supply	95
123	C.E.D.	107
*	C.O.M.B. Co.	101
85	Cardco, Inc.	CIII
192	Cardinal Software	117
81	Central Point Software	95
*	Cheatsheet Products	127
*	Commodore Business Machines	CII
*	Commodore Business Machines	1
64	CompuServe	14, 15
*	Computer Centers of America	2, 3
55	Computer Creations Inc.	30
274	Computer Friends	6
*	Covox, Inc.	86
198	Crown Custom Covers	107
	D.A.K.	54-63
105	DSI, Inc.	99
128	Digital Vision	125
3	Electronic Arts	19
12	Epyx, Inc.	11, 13
84	Federal Hill Software	105
144	Free Spirit Software Inc.	112
*	GE Info. Services	69
108	HBH Sales Corporation	117
9	H & E Computronics	25
*	Instant Software	103
*	Intelligent Software	125
57	Jameco Electronics	46
202	Jason-Ranheim	109
	John Henry Software	49
197	Jacobsen Software Design	120
*	K-Soft	105
270	Knight Personal Software Ltd.	117
181	Lincoln College	116
*	Lyco Computer	89
136	Master Software	95
127	Maxtron	115
189	Megasoft, Ltd.	32, 33, 78, 79
172	Micro-W.D.I.	121
177	Micro World Computers, Inc.	121
68	MicroProse Software	47
60	Omnitronix	111
*	Pro-Line Software	125
74	Prof Jones/Frogg House	108
93	Professional Software	21
15	Protecto Enterprizes	84, 85, 87
220	Quinsept Inc.	111
*	RUN	
	Jesse Jones	46
	Universal Micros	53
	Subscriptions	48
	Subscription Problem	121
219	R J Brachman Associates	120
215	R.J. Softshop	115
200	R.P.M. Concepts Ltd.	95
138	Serendipity Micro Technology	112
90	Skyles Electric Works	73
66	Software Dimensions	113
254	Software Discounters of America	109
137	Solid State Software	7
*	Solutions Unlimited	91
92	Star Micronics Inc.	71
22	Starpoint Software	22
101	Stat Soft	109
40	SubLogic Corporation	45
26	SubLogic Corporation	31
122	Sunrise Software	124
223	T & D Electronics	105
155	Tenex Computer Express	97
2	Timeworks	9
116	Tri Micro	53
209	Tussey Computer Products	23
132	Ultrabyte, Inc.	104
121	Valuesoft	88
205	Video File	124
151	Wilanta Arts	115
4	Woodbury Software	29
*	Woodbury Software	125
77	X-10 Powerhouse, Inc.	17
96	Xetec, Inc.	95

For further information from our advertisers, circle the corresponding Reader Service number on the Reader Service card.

*This advertiser prefers to be contacted directly.

Advertising Sales:
Steve Robbins; Ken Blakeman;
Nancy Potter
(603)-924-7138 or (800)-441-4403;

West Coast Sales Office:
Giorgio Saluti
(415)-328-3470 or (800)-227-8365
In Calif.: (800)-344-4636

This index is provided as an additional service. The publisher does not assume any liability for errors or omissions.

March

COMING ATTRACTIONS

- **RUN Word Processor**—In the March issue, we introduce RUN Script 64, a word processing program designed especially for *RUN* readers. RUN Script 64 is both flexible and easy to use and offers many features not found in other word processing programs.
- **Telecomputing Workshop**—This new telecommunications column will provide you with advice and answers to your questions on modems, terminal programs, on-line networks, bulletin board services and more.
- **C-128 Productivity Programs**—If you're looking to put your C-128 to work, these reviews of word processors, databases and spreadsheets can help you.
- **Basic Programming Series**—If you want to program in Basic on the C-64 or C-128, whether you're a beginner or intermediate, this column will examine commands and programming techniques, plus divulge a few programming secrets that will help you sharpen your skills.
- **Plus**—Reviews, new product announcements, answers to your questions and hints and tips that help you get the most out of your computing experience.

http://www.oldgamesitalia.net/ http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

Technical Breakthrough #29

What you see is what you get!

You're playing HitchHiker's Guide to the Galaxy™, and you're presented with an option never before revealed to the human life form. You know, when you hit the key, it's going to be gone for all eternity. What do you do?

Freeze Frame!

It takes an instant "snapshot" of your screen. Dumps it to your printer, so you can file it for future reference . . . and returns you to the game, **exactly where you left off!**

Works with...	Freeze Frame	Other Screen Dumps
Disk programs	Yes	Sometimes
Cartridge programs	Yes	Seldom
All programming languages	Yes	No
Absolutely everything	Yes	No way

Freeze Frame is Cardco's greatest technical breakthrough yet. It is the first **totally transparent** screen dump utility for Commodore computers. We mean absolutely, positively, 100% TRANSPARENT . . . to **any** program in **any** language. Period. As if that weren't enough, **Freeze Frame** also gives you . . .

- **Cartridge-based program for instant-on (with female connector for chaining cartridges)**
- **Standard, Reverse, and Mirror imaging**
- **Multiple printer adaptability. Works on any printer or printer interface combination that emulates Commodore 1525 operation! High-speed options are included for Epson-compatible and Okidata-compatible printers.**

The Wizards from the Land of Oz Have Done It Again!

CARDCO, Inc. / 300 S. Topeka / Wichita, KS 67202

Circle 85 on Reader Service card.

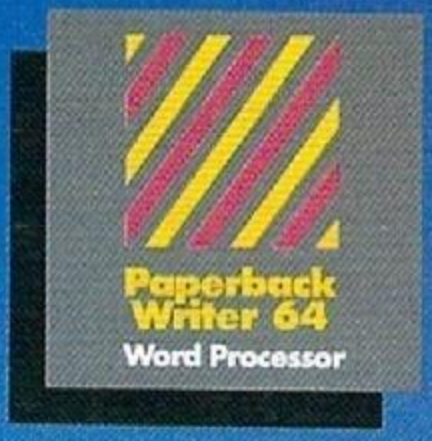
http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/

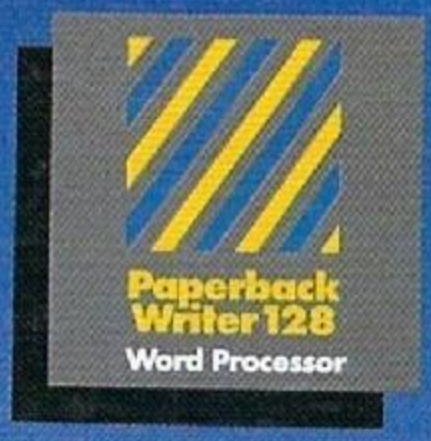
http://www.oldgamesitalia.net/

Circle 95 on Reader Service card.

Solutions!



PW 128/64 Dictionary
also available at $14.95 (U.S.)



MAIL ORDERS:

CRYSTAL COMPUTER INC.
In Michigan 1-517-224-7667
Outside Michigan 1-800-245-7316
24 hours a day, 7 days a week.

U.S. DEALER ENQUIRIES:

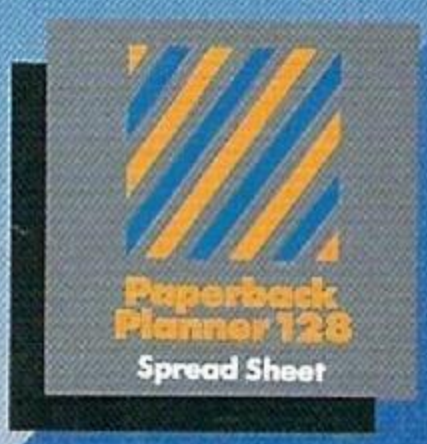
ALLEGRO TECH
1-800-544-1004
In Massachusetts
1-413-443-9443

MICRO-PACE COMPUTERS INC.
1-800-362-9653
In Illinois
1-217-356-1884

MICRO-SYS DISTRIBUTORS
1-800-527-1738
In Texas
1-214-231-2645

CANADIAN DEALER ENQUIRIES:

FRANKLIN WINTER
Consulting & Sales
1-416-822-5974



Best-selling software for Your Commodore 128 or 64

You want the very best software you can find for your Commodore 128 or 64, right?

You want integrated software — word processing, database and spreadsheet applications — at a sensible price. But, you also want top-of-the-line features. Well, our Paperback 128/64 software goes one better.

With Paperback 128 or 64, you'll find all the features you can imagine . . . and then some. And Paperback 128/64 is so easy to use, you won't even need the reference guide. On-screen and in memory instructions will have you up and running in less than 30 minutes, even if you've never used a computer before.

The price? It's as low as you'd expect for a line of software called 'Paperback'. Suggested Retail Price for the 64 Software is $39.95 (U.S.) and $49.95 (U.S.) for the 128. Any of the 64 products may be upgraded to their 128 version for $15.00 (U.S.) + $3.00 shipping and handling. (Available to registered owners from Digital Solutions Inc. only.)

Paperback Writer 128 or 64, Paperback Planner 128 or 64 and Paperback Filer 128 or 64 . . . **Solutions** at sensible prices from Digital Solutions Inc.

International & Distributor enquiries to:

Serious software that's simple to use.

Digital Solutions Inc.

P.O. Box 345, Station A
Willowdale, Ontario
Canada M2N 5S9
1-416-221-3225

Paperback Writer 128 and 64 are now available in Fren

http://www.oldgamesitalia.net/

http://www.oldgamesitalia.net/